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**AUTOMATING THE MISSOURI  
STATE LIBRARY:  
A STUDY**

Prepared by the Missouri State Library Staff  
January 21, 1994

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## **OVERVIEW - THE LIBRARY ENVIRONMENT**

### **PURPOSE**

The automation of the State Library is designed to meet immediate and future information needs, project growth and changes in technology, address the logical linkages of the State Library to other statewide systems, and present the continuing development of statewide automation over the next five years. This report outlines how individual libraries, library systems, and the State must share a vision for serving people in a changing environment, and it focuses on ways that global information services are compatible with local initiatives that has flexibility and ingenuity.

The overall goal of the State Library is to develop and offer an automated system which will completely integrate multiple libraries of varying types (public, academic, school, institution) through an interconnected system that provides for a statewide catalog of Missouri libraries' collections, access to full text business, scientific, and general periodical databases, electronic interlibrary loan, access to Internet/remote databases, and electronic mail.

### **BACKGROUND**

In the late 1980's planning for the State Library's permanent quarters in the Missouri State Information Center assumed that the State Library would be automated. As a result, no provisions were made to house card catalogs. The previous administration felt that the State Library should wait until it moved into the Information Center before funding would be allocated to completely automate library services. Now, two

years after moving into the Information Center, the State Library is still not automated. As a consequence, there remains no practical method of identifying to neither its primary clientele nor the general public what is owned by the State Library.

In 1987, the State Library commissioned a study of its automation requirements. The study, by RMG Consultants of Chicago, recommended a course of action for the State Library to pursue. The study described configuration of a system with terminals and printers, costs, and benefits for automating the State Library. This study was validated in 1991 and remains valid in 1994. The only modifications needed are to account for technological changes that have actually decreased the costs identified in the original study. Specifically, although prices have leveled in the last few years, the cost of local area networks, and workstations dropped dramatically since the late 1980's. The overall minimum requirements for an automated library system have not changes, merely the technological hardware/software needs for achieving and meeting these requirements have changed.

### **CURRENT ENVIRONMENT OF LIBRARY SERVICES**

The library situation today is very different from what could have been envisioned even a few years ago. Not only is the technological and telecommunications world changing at an unprecedented rate, but fiscal constraint in Missouri, as in the rest of the U.S., is increasingly influential in every sphere of government services. The financial condition of the State has significantly affected the ability of the State Library to develop a Statewide Library Network to promote increased resource sharing and assist libraries. We believe that the future of library services and programs is at stake.



Businesses and individuals residing in Missouri cannot work, learn, and live without information. We need to be able to think critically and solve problems to survive in all aspects of life. These skills are dependent upon access to and the productive use of information. Libraries of the future will be dramatically different technically, but the traditional roles that libraries and librarians have played will continue and be strengthened. The organizing, interpreting, and teaching skills of librarians and their proven commitment to equality of public service will be critical to ensuring each Missourian's ability to effectively use information.

Librarians will continue to collect, organize, and make available the intellectual and artistic record of the human race. They will continue to be educators and mediators between the creators and consumers of information. Librarians will be challenged with developing and implementing standards for organizing, accessing, and authenticating information in the electronic networked environment and with creating the sophisticated tools needed to navigate electronic networks. They will select and teach Missourians the use of reliable electronic information sources to meet the needs of individuals.

## OBJECTIVES

The objectives of the automation of libraries are to link Missouri with the flow of global information and to improve productivity by increasing the availability of information in an accurate and timely manner, support and guide initial and advanced electronic library efforts while preparing for continually evolving increasingly complex services. The following itemization represents both in-house and out-state activities:

- Create an on-line, public access catalog (OPAC).
- Provide an on-line bibliographic control function for all library materials.
- Furnish a more efficient and faster way for libraries to order and receive materials.
- Support an on-line circulation control function.
- Produce statistical reports on library activities.
- Increase productivity and provide for timely operations.
- Use and manage our library collection better.
- Obtain an automation configuration that will provide service for at least five years without large increases in maintenance costs. With this in mind, the processor should be a model that has been on the market for less than two years.
- Acquire a system that is capable of handling all bibliographic records in the state of Missouri. (Currently the statewide database on CD-ROM contains 4.2 million titles and 9.5 million separate items.)
- Establish a point of access to the Internet through the State Library.
- House and disseminate full text databases, both commercial and governmental to enhance business development,

research, education, government services, and public access to information.

- To provide opportunities for distant learning experiences.
- Support of other governmental libraries in their efforts to link up with the State Library's network.
- Provide access to all Missouri libraries to the services provided by the state library's computer system.
- Provide for other libraries in Missouri to become branch libraries (in terms of this RFP, not administratively) of the Missouri State Library.

## **IMPLEMENTATION**

The State Library has identified two options: 1) complete automation in one year; or 2) a phased in approach by automating the core in-house needs and adding or expanding in phases. The approach taken will be determined by funds made available. Both options have advantages and disadvantages. The first option would require more funding up front. The phased option would require additional funding over a two or three year period. The phased option is what we expect to happen.



## Some thoughts on the phased approach

### Phase One

The core of the library system consists of both hardware and software. The software identified for initial purchase consists of these modules:

- ① Acquisitions - manages and accounts for purchases.
- ② Serials - manages and accounts for non-book materials.
- ③ Cataloging - classify materials and puts information in subject categories and databases.
- ④ Administrative - library's internal processes.
- ⑤ Local Area Network Upgrade - connections for additional workstations and software.
- ⑥ Multiple file server connections - connect Local Area Network (LAN) to State Library Automation computer.

The hardware consists of a library computer, connections to the Local Area Network, and emulation cards and wiring to existing workstations.

### Phase Two

Phase Two builds on the equipment purchased during phase one and, through General Revenue Equipment and Expenses from previous years, establishes the complete internal library system, and provides the framework and software structure to support state-wide expansion.

The hardware needed in Phase Two consists of:

- ① Additional workstations and connections to the library computer.
- ② Expanded memory & storage capabilities of the State Library computer.
- ③ Bridges and routers to make direct connections to the Internet through MoreNet (the Missouri Research Network).
- ④ CD-ROM jukeboxes to share databases.
- ⑤ Remote access via:
  - (1) Dial up capability.
  - (2) Terminals in other State Departments and Agencies: Legislature, Supreme Court Library, Department of Economic Development, Department of Health, Department of Public Safety, Office of Administration, Department of Mental Health, etc, on an as requested basis.

The Software needed in Phase Two consists of:

- On-line Public Access Catalog.
- Circulation module.
- Virus protection programs.
- Internet server.

Contractual services (services that cannot be purchased or that change so frequently that it is too expensive) required for Phase Two are:

- Full text databases.
- CD-ROM databases.
- Maintenance of hardware & software.
- Marcive (Federal Documents catalog).

### Phase Three

Phase Three consists of those external programs made available from the State Library to other public/tax supported libraries throughout the state, specifically:

- Produce the statewide bibliographic database (MCAT) on-line.
- Facilitate InterLibrary Loan services between libraries.
- Create an electronic bridge between different types of library automation systems used by other Missouri public libraries.
- Provide copy cataloging & direct input into MCAT by any Missouri library.
- Develop and establish access to other state agencies databases.
- Establish a Freenet system (on-line public access to remote databases, library services, and electronic mail)
  - Internet access to other libraries.
  - Bulletin Board System.
  - E-mail file transfer.
  - Electronic encyclopedia of Missouri database.
- Allow other libraries to use the system as if they were branch libraries.



## Procurement Schedule

To achieve implementation of an automated library system by the end of 1994, the State Library's current schedule of procurement activities leading up to system installation is as follows:

Finish Study of needs	January 3, 1994
Complete documentation of Automation Study	January 21, 1994
Present Study to House Budget Committee	January 24, 1994
Submit RFP to Office of Purchasing	February 1, 1994
Deadline for Proposals due	April 4, 1994
Evaluation of Proposals	May 1994
Vendor demonstrations (if needed)	June 1, 1994
Selection and notification of vendor	June 8, 1994
Contract signed	June 15, 1994

## **CURRENT STATUS**

Funding for automation of the State Library was delayed pending relocation to the State Information Center. We are still doing most of our work manually. We are able to do some electronic searching. The State Library is not positioned to move in line with the Governor's initiative in telecommunications and the work being undertaken by the State Telecommunication Committee. The State Library has not reached a level with automation that we could fit into the future computer connections within Missouri, nor are we prepared to connect to the National Information Infrastructure (NII) espoused by Vice President Gore.

The new Statewide Automation Plan will serve as a blueprint for and a means of communication about statewide library automation.

Statewide library automation is substantially advanced through the Statewide Bibliographic Data Base and Interlibrary Resources Sharing Program and is partially funded through the Library Services and Construction Act. Funding from this program has initiated evolution to automation in Missouri libraries.

The State Library proposes to not only prevent automation in Missouri from being limited in scope and disparate in application, but to ensure widespread use of automated library services and to coordinate statewide efforts to make electronic library services routinely available to all Missouri citizens.

This proposed system will significantly aid libraries in Missouri to serve their users in the developing networked world of today and tomorrow. The electronic library concept captures the essence of what libraries in the State are becoming.

The State Library's goal is:

- To ensure that Missouri leads the Midwest in providing its citizens state-wide access to the world of electronic library services
- To ensure that the business community of Missouri has the information it has traditionally received from libraries, but more quickly and cheaply in modern electronic format to remain competitive

- To provide the opportunity for all Missourians, including those in the educational system, broaden access to the rich world of information that now lies just beyond their reach because there is no infrastructure
- To ensure all citizens of Missouri have equal access to information about community services and programs.

## **CONCLUSION**

Now is the ideal time for the State Library to position itself for the changes coming in telecommunications, information transfer, educational system networking and, most importantly, business/economic development information. The relatively small amount of \$250,000 we have requested will ensure that the State Library can meet, and can assist Missouri public libraries to meet, the information needs of business, government, and the general public. To do otherwise, while other states ensure their businesses, citizens, and government agencies have access to information, could trap our fellow citizens in electronic chaos.

## THE PROCESS OF LIBRARY AUTOMATION

### [THE PROCESS]

[Because of the State Library's staff responsibility to consult with local libraries throughout the state in their automation activities, we have remained very current in the applications of technology, current trends, nationally, statewide, and locally.

We have taken previous studies and reviewed their merits as they relate to today's needs and changes in technology. We have had dialogue with some of the same vendors who gave in-house demonstrations at that time. Our time at conferences and exhibits has enhanced our knowledge of current trends, cost, and skills in discerning sales talk from actual facts. Our working with libraries statewide in automation keeps us current on where many of the bugs are, and has taught us to identify vendors who do not support their hardware and software. Our day-to-day exposure has made us very sensitive to the improvements in automation software and hardware in terms of functional robustness and ease of use. The major difference in our needs today and in the study of RMG Consultants in 1987 is the upgrading of the technology and software, and the new capabilities, i.e., telecommunications, INTERNET, MoreNet, etc.]

The Missouri State Library is often called upon by other libraries throughout the state to help them in preparing to automate their libraries. We used the same approach in studying how and what to automate in the State Library. This document begins with the same advice we give to other libraries, and then goes on to make the specific specifications necessary to select a library automation system.

Computer technology, in general, and microcomputer technology in particular, continue to make significant advances, offering both expanded capabilities and affordable pricing. If the same technological progress that has characterized the computer industry had taken place in the automobile industry, today's Mercedes Benz would cost about \$100 and would travel nearly 5,000 miles on a gallon of gas. Of course, this same car would also be about the size of a penny. When desktop microcomputers were first introduced in the early 1980s, central processing unit (CPU) memory was measured in increments of thousands of characters. Today, microcomputer CPU memory has increased to more than 1MB (1 million characters), and these newer machines are commensurately faster and more powerful than their predecessors. Furthermore, microcomputer applications are no longer limited to the single user Workstation. Several terminals can be connected to a single microcomputer, and/or multiple microcomputers can be linked to form a network. Add to this aggressive pricing strategies of the IBM "clones" and, most recently, Apple, and it's easy to understand the exponential growth of the microcomputer marketplace. Though the phrase "microcomputer revolution" sounds a bit hackneyed these days, some phenomenal changes have indeed taken place. Sometime during the past ten years we all stopped asking "Do you have a computer?" and substituted "What kind of computer(s) do you have?"

Automated library system software has also improved in terms of both functional robustness and ease of use. Software has been developed for a wide range of library functions, including circulation control, acquisitions, serials control, online public access catalog, catalog card printing, cataloging and retrospective conversion.

A computer shines when it is able to perform jobs of a repetitive nature. Housekeeping activities, e.g., preparing overdue notices, printing acquisitions orders, checking in serial issues, printing catalog cards, etc., are quickly and accurately performed by the computer. A computer system may also sparkle when asked to retrieve information from a large file, e.g., keyword searching, etc. But caution should be exercised with regard to claims that the computer system will save money. The efficiency of an automated system has less to do with the system itself than with:

The efficiency of the current manual system. If the current manual system is inefficient, automation may yield cost savings and improved efficiencies. Ironically, less dramatic improvements result when manual procedures are already streamlined.

The commitment to adaptation. The willingness of the library staff to recognize the strengths and limitations of the automated system and to adopt new policies and procedures to best complement the strengths of the computer software will have a great influence on the outcome of any automation project.

The efficiency of complementary procedures. The best installations develop and rigorously test new procedures and forms to ensure maximum performance. Like manual tasks, computerbased processes should be thoroughly examined in the light of their effect on services to patrons, and retooled as necessary to achieve the desired results. All too often, computers are simply plunked down in the existing environment, inefficient computer tasks are substituted for inefficient manual tasks and no one takes time to rethink the entire operation. The surest symptom of this problem is the survival of extensive paper



files. To get the true benefits of automation you must design a total library workflow that maximizes use of the computer for the kinds of jobs that it does best, and eliminate as many paper files as possible.

Rarely are staff costs deducted from a library's budget as the result of automation. The time gained by automating some tasks is more typically re-directed to other important activities. This is of vital importance to the Missouri State Library since we are already a bare bones operation.

Additional benefits frequently noted by librarians who have automated include: The library has improved control over its collection. Staff can conduct inventories of the collections with greater accuracy, or for the first time. In addition, the current status of any particular item, title or patron can be instantly determined.

The system can generate a wealth of statistical and management information that is difficult, if not impossible, to prepare using manual systems.

It should be noted that automation does have some negative aspects. Finding the necessary monies to purchase the system can be difficult, and may mean sacrifices in other areas. In other cases, the fancy new equipment becomes the central focus for library services and more traditional, hands-on services may be curtailed. The key here seems to be the arguments used during the initial justification phase of the project. If automation is perceived primarily as a way to make the library staff's lives easier, administrative misunderstandings are more likely to result. If, on balance, automation is seen primarily as a way to

improve the patrons' library experience, other library services are less likely to be cut in compensation.

## SELECTING A SYSTEM

Making the decision to automate or, at least, to explore automation, can result in bewilderment. The advertising barrage in the various library journals can be overwhelming. It is clear that there are a great number of products in the marketplace but it is difficult to determine each product's capabilities or to evaluate the realities of their claims. The encouraging aspect of this proliferation of choices is that it increases the likelihood of finding a product that meets the needs of the library at a competitive price.

To make the selection process more manageable, it has been broken down into separate steps.

Step 1. Determine what functions or features the library would like to automate. Remember that the computer will be assuming responsibility for repetitive tasks. Try to identify those repetitive tasks which now occupy a large amount of staff time, e.g., typing, filing, searching, etc. Special tasks that only come up once every six months or so are not likely candidates for automation, unless they involve the entire collection, for example, inventory and annual statistics.

Step 2. Decide which capabilities are required to support each specific task. Develop a written checklist of specific functions that are

essential mandatory and those which are desirable (optional). Be honest about what you absolutely must have vs. what would be nice to have. In addition to check-in, checkout, patron registration and placing a hold (reserve), what other functions are needed? Must certain reports be generated by the system? Does the library's parent organization have an existing student or patron ID number that must be used? Must fund accounts conform to certain bookkeeping standards? How do you want to search the database?

Step 3. Determine how much data will need to be stored (number of titles, volumes, patrons, orders placed, notices sent, number of vendors, etc.). This is often a weak area. Librarians in smaller libraries tend to underestimate the number of records that will be stored on the system. In addition to books, don't forget to count nonprint materials, uncataloged items, equipment, kits, software, etc. And be sure to allow for plenty of growth; streamlined procedures can improve circulation turnover rates significantly, and it is not unusual for the introduction of an online catalog to increase library use by 100%.

Note also that some vendors may try to provide the lowest cost solution by skimping on the hardware configuration. Make it clear that you want the fullest possible records to be stored, with complete indexes. Specify a hard disk that allows at least 30-40% free space if possible.

Step 4. Determine whether there are any constraints under which you must operate. Specifically, does your automated library system have to operate on a specific brand of computer. Are there budget constraints?

If the answer to either or both of these questions is yes, this will effectively eliminate some products from consideration.

On the IBM PC (or compatible), the user interacts with the computer by typing in commands at system-provided prompts. Extensive use is made of function keys. Special commands can be initiated by using these function keys in combination with ALT, SHIFT and CONTROL. The user navigates the screen by means of cursor control (arrow) keys, along with special keys for Page Up, Page Down, Home, End and Escape. On the whole, this approach calls for adequate typing skills and reasonably accurate spelling; many library software products assist the user by providing brief mnemonic commands to simplify and speed output.

Step 5. Once the list of requirements has been determined and any constraints have been identified, then, and only then, should you compare the capabilities of the available products with your needs. When you are test driving or viewing a demonstration of a product, make certain that you see not only whether a desired feature is present but how smoothly the system accomplishes a particular task.

Step 6. After you have determined your top two or three candidate systems, talk to each company and determine if they have any customers close to you. Arrange for a visit (or at least telephone call) to at least one customer library for each product so that you can obtain an experienced "field" opinion of the product you are considering. Always ask, "What was your biggest surprise?" and "If you had it all to do over again, would you do it differently'?"

Step 7. Library automation software has been developed by individuals, libraries and companies. After a few months or years, this "business" activity must be successful, i.e., revenues must exceed costs, or the product development and ongoing support may be discontinued. Any prudent librarian should be asking "Is this software supplier likely to remain in business?" How many customers does the vendor have? How many customers bought the product in the last 12 months? If this is a not-for-profit organization, how committed are they to the library community? Microcomputer software is the modern day equivalent of a better mousetrap. It seems that practically any bright young programmer can develop a new idea and find a market for it. Unfortunately, ingenuity is not the only ingredient necessary for running a successful business. The transition from product development to ongoing maintenance and enhancement can be a difficult one for many entrepreneurs; be sure to look past the bells and whistles for a solid, businesslike foundation.

## COSTS

The costs for a automated library system can vary significantly. The basic items that should be considered when budgeting are noted below.

- Computer
- Printer(s)
- Barcode readers (scanners)
- Electrical power strip and surge protector
- Modems
- Cables

- Operating system software
- Library software.
- Fileserver (LAN)
- Additional workstations (microcomputers)
- LAN equipment for each micro on the network
- LAN software
- LAN cables.

#### Related cost items:

- Retrospective conversion (input and processing)
- Barcode labeling
- Additional electrical wiring, especially for online catalog
- Computer furniture
- Supplies (diskettes, diskette files, printer cartridges, printer paper, overdue notice forms, barcode labels, etc.).

## CATALOG AND PATRON DATA - DEFINING

The computer requires that data be in a form that can be read, stored and manipulated electronically. To perform any function on a computer, the library must first create a database of machine-readable records. The library must typically create four databases--bibliographic, item, patron, and authority control data. The process of creating the bibliographic database for materials already in the library's collection is called retrospective conversion--recon for short. After the initial database is loaded, additional machine-readable bibliographic records will be needed for all new titles added to the library's collection.



Bibliographic data is usually stored in the title file. The item file contains an identification (barcode) number for each copy of a title, and other item-related information, such as shelf location, call number, etc. Multiple copies of the same title have multiple records in the item file but are linked to only one bibliographic or title record.

The patron file typically includes name, address, identification (barcode) number and other information that helps distinguish one patron from another. When an item is checked out, the computer links the patron and the item. When an item is returned, the link is broken. Searching all of these databases is facilitated through the use of indexes. While it is possible to sequentially search an entire file for the desired information, searching within an index is quicker and makes more efficient use of computer resources.

Machine-readable bibliographic (cataloging) records that conform to the national library standard are called MARC (MAchine-Readable Cataloging) records. Numbers, letters and special characters or symbols are used to distinguish the different pieces of bibliographic information. These different pieces of information are called fields, and the numeric labels that identify them are MARC tags. Within a field, data elements may be further separated by special characters called delimiters.

If less data is entered than is called for in the AACR2 cataloging standard, the resulting record is called a "brief record." A complete record, that complies with both the AACR2 cataloging standard and the MARC formatting standard is usually referred to as a "full MARC record." Not all computer records are full MARC records. In fact, a majority of the micro-based systems employ some subset of the full standard, in the interest of saving disk space. As a sort of compromise,

vendors can provide bibliographic data on floppy diskettes in a non-MARC format called MicroLIF (Micro Library Information Format). The MicroLIF format is becoming more MARC compatible as time goes on, but still does not conform entirely to the national standard for the MARC record. This raises two important issues:

Will the library follow the nationwide standards for its bibliographic records, or will it create and store a non-standard database? Remember that there are really two standards to observe: AACR2 for record content (what information is present) and MARC record format (how that information is tagged and delimited). The Missouri State Library already has complete MARC records on OCLC. Our only cost will be to have a copy made on tape to load into whatever vendors database is selected. The bibliographic database is a valuable asset and usually costs considerably more than the computer system itself. It should be designed to last for many years and should, ideally, be compatible with a number of different automated systems.

Unfortunately, this news has not caught up with many administrators, who expect the library staff to accomplish conversion tasks in their "spare time" or with volunteer help. The best way to look at this is to calculate the value of the hours invested in the present card catalog and suggest that the investment deserves to be protected by adhering to established standards. Borrow a copy of the government document that defines the MARC format so that everyone can see the level of detail involved. And remind decision makers that they should only have to pay for conversion once--better to do it right the first time than have to do it over again later.

## SOURCES OF BIBLIOGRAPHIC RECORDS

Machine-readable bibliographic records are supplied by four primary sources:

1. Bibliographic utilities, e.g., OCLC, UTLAS International, RLIN and WLN. The utilities offer online access to extremely large databases, composed of Library of Congress data, Government Printing Office data and contributed records from libraries all over the world. The subscriber searches these files and identifies records that match local holdings, adapting them as necessary for use in the local system. This is the source of records at the Missouri State Library.
2. Database processing vendors, such as Blackwell North America, Brodart, Auto-Graphics, COMCO, General Research Corporation, etc. Though some of these vendors offer online services comparable to the utilities, much of their work involves batch processing of a library's entire catalog. It is possible in many cases to simply send a shelf list to a database processor and receive in return a complete bibliographic database. These vendors also offer a wide variety of cleanup services, such as call number normalization, authority control work, etc.
3. Vendors of CD-ROM products, including Library Corporation (BiblioFile), Brodart Company (Le PAC), General Research Corporation (Laser Quest), OCLC, WLN and the Library of Congress. Instead of providing online or batch processing, these vendors provide customers with a resource database on CD, to be

loaded on a local microcomputer. The user searches the CD files and copies/adapts records that match local holdings.

4. Book jobbers, for example, Baker and Taylor, Brodart, Midwest, Follett, etc. It is now possible to buy preprocessed books with matching machine-readable records instead of (or in addition to) card sets.

Note that there are also many contract services and cooperative processing centers that will undertake to use one or more of these sources to complete a retrospective conversion and/or produce ongoing cataloging on the library's behalf.

Costs of obtaining a MARC record will range from less than 10 cents to more than \$2.00, depending on the source, the timeliness of access and the amount of editing the library needs to do on the record selected. Most vendors can provide bibliographic records on both 1/2 inch standard magnetic tape and floppy diskettes.

If the funds are not yet available, some preparation is still possible. Given the costs of retrospective conversion, every library should thoroughly weed its collections before automating. Every library would also be well advised to include in its cataloging (manual or automated) the Library of Congress Card Number (LCCN), the International Standard Book Number (ISBN) and the edition information when available. The inclusion of these numbers will greatly facilitate the future creation of a full MARC database. Full MARC records constitute the lingua franca of library automation. If you want to participate in a union catalog project or to share resources through the interlibrary loan computer-to-computer communications protocol, or simply to ensure

that your database can be moved to another vendor's automated system sometime in the future, then you should plan to use full MARC.

## TIME

Installing an automated library system will definitely take some time. Administrators whose only computer experience is the word processing or spreadsheet packages may not appreciate the difference in magnitude between those projects and the implementation of a library system, complete with databases. After the system has been hooked up and the application software loaded, the library will still need to enter the data to create the necessary bibliographic item and patron files. This procedure can be very time consuming. On average, an operator can enter about 60 titles or 100 patron records per hour, depending on the amount of data in each record and the typing speed of the operator. Time must also be scheduled for staff training, barcoding, etc. If the library is creating its own database, the project may take from six months to a year to complete.

Even when a system is up and running, the time required for its daily upkeep, especially for backups of the database, can be considerable. The backup process is especially slow for floppy diskette-based systems. In addition, the data will most likely require ongoing attention and clean up. It's absolutely amazing how all the errors that remained hidden in the card catalog suddenly become so visible on the screen of a computer terminal!

## CRITERIA USED TO EVALUATE THE SYSTEMS

### System Features

How robust and comprehensive is the software? Is the software missing any obvious features or functions? Can the data, once entered, form the foundation for other modules in addition to circulation control?

A circulation system should provide more than basic functions: patron registration, check-out, check-in, overdue notices and statistical reports. A good circulation system will also provide for renewals, recalls and other frequently encountered situations. A series of reports should be readily available.

### Data Storage

How much bibliographic, item, patron and authority data is stored (number and size of fields)? Is there sufficient room to store the standard data elements? Are some or all of the data elements required or can the library make some fields optional? How effective is the system for data entry?

### Performance

How much power is given to the user to accomplish a task? Does the system employ a simple, lowest common denominator approach? Or does the system empower the experienced user with short-cuts and flexible tools? How many steps are needed to complete a task?



Response times should be fast. Record input should take no more than 10 seconds. Circulation related transactions, e.g., check-out/check-in, should require no more than 2 to 5 seconds.

### Ease of Use

Is the system easy to learn? Are the commands, if any, mnemonic? How many keystrokes are needed to complete a task? Is it easy to move about the system? Is it easy to move to other modules? Does the system take full advantage of the computer's capabilities? Are the menus easy to understand and well organized? Is help available? If so, is it easy to get to and is the text understandable? Are the screen displays clear, uncluttered and the data elements labeled?

### Documentation

How good is the users manual? Does the manual have an Index, Glossary and Table of Contents? Is the layout crisp and clean? Is the text clear? Are examples and sample screens provided? Were any errors in the documentation discovered during our trial run?

### Customer Support

Is toll-free telephone support available? Are there optional levels of service available? Are regular software updates provided? How good is the service? Is there a Users Group? How active is its Users Group, i.e., does it meet at state/national conferences? Is there a newsletter?

## Applicability

Is the software better suited to a particular type of library?

## Overall Assessment

Finally, step back from the specific details and formulated an overall assessment and rating. After looking at and using each of the packages, develop a summary of the strengths and weaknesses of each product. Remember that all system capabilities change over time.

## DEFINING THE NEEDS:

It is the goal of the Library to have a completely integrated multi-type library system to serve as a statewide union catalog with electronic interlibrary loan, E-mail, access to the Internet, access to full text journal databases, and to serve the library automation needs of the Library.

The Library has determined that it needs the following features:

- ❶ Acquisitions
- ❷ Cataloging with Authority Control
- ❸ Serials
- ❹ Public Access Catalog
- ❺ Interlibrary Loan
- ❻ Circulation with Inventory

- ⑦ Backup Provisions
- ⑧ Full Text Journal Citations and access to Reference Databases
- ⑨ Electronic Mail
- ⑩ External Systems: Freenet; Interfaces to other automated library systems; Internet; Multiple Library capabilities; Information & Referral;

All features must meet library standards as specified. The system must:

- allow records to be imported and exported in the MARC telecommunications format
- allow the library to set, change and delete specific policy choices from the system without vendor or programmer intervention
- make it possible for the Library to have multiple policy files or multiple locations
- allow the library to serve as a gateway to other databases and telecommunication networks

Each module must be capable of being run independently and also simultaneously with any or all other modules and functions.

The system must be able to operate in both a LAN and WAN environment. Specifically, the State Library is using Novell 3.1 but expects to upgrade to Novel 4.x.

The vendor must propose a system with all hardware, which is capable of expanding without replacing the entire system. The proposal must include the cost of migrating the bibliographic records that are currently

held by Brodart (in USMARC) and OCLC. The proposer must explain how the migration will be done, the method to be used to merge and de-dupe records.

The system to be purchased must include software, documentation, supplies, testing, training, installation, and maintenance necessary for full ongoing operation.

The system must have a proven record of successful online operation in a similar multilibrary environment. The system must have an installed base of at least 25 library systems.

The system package should include a schedule of software enhancements, with training support to ensure effective use of new or enhanced system features. In the case of a lease buy out or out right purchase, all systems and applications software supplied as a portion of the integrated system software should be made available in perpetuity, without restriction, to the Library.

The system should operate in a real-time interactive mode, with the capability to create, update, maintain, and access all data for library materials and patrons by real-time online mode.

The system should be capable of being expanded to accommodate more increased memory, disk storage, terminals, or functions without replacement of existing hardware. The system should be capable of expansion to accommodate the Library's predicted five year growth of collection size, number of users, number of terminals/service points, and number of transactions, without major system redesign or hardware/software replacement, and without degrading system functional performance, reliability, or response time. The system

should be capable of expanding to include additional features or enhancements and improvements in technology, without degradation in the performance of previously implemented functions.

The system must provide an automated online interface with a bibliographic cataloging utility, a CD-ROM cataloging source, an online interface with book jobbers, and an online interface with serials subscription agents. Also of importance are online interfaces with other existing automated library systems (Dynix, DRA, INLEX, NOTIS, CARL, LISTEN (St. Charles city-county library system share by 12 libraries statewide), Data Trek, Winnabago, Calico, etc.), CD-ROM reference products, tape loaded reference products, and dial access for Library patrons and other libraries. Respondents should address each area.

## **PROPOSAL FORMAT**

(TO BE INSERTED BY OFFICE OF PURCHASING but needs to include the following.)

Table of Contents, Company organization, Cost proposal, Response to specifications, Installation and Training , and Maintenance information.

Maintenance information should describe:

- Does the vendor provide an 800 number for dial-in assistance?
- What hours is the customer support desk open?
- Does the vendor provide dial-in diagnostic service for software, hardware, and telecommunications?
- What is the location for software service?
- What provision is there for emergency service?

## Site Requirements

The central processor, central telecommunications equipment, and principal system printer will be located at the Missouri State Library 600 W. Main, Jefferson City, MO 65102. The proposer should submit a detailed list of electrical, cabling, physical, and heating/air conditioning requirements. The Library's responsibility for any or all of these facilities should be clearly indicated.

## Communications Costs

The total system cost must include the cost of any additional modems, multiplexors, and other communications equipment that might be needed in addition to the existing equipment. Also required is a description of line type recommended/required (analog, digital, dial-up, data circuit?).

## Software and Operating system

The vendor shall describe the operating system and applications software language used for its system. All system software necessary to operate the computer system to perform the functions outlined and support the functions specified in the RFP must be supplied. Operating system software and applications should not prohibit the inclusion of third party software on the system. The operating system must, at a minimum, provide:

Library software applications written in an ANSI standard language.



- The ability to prioritize processing of jobs.
- For the queuing and dispatching of input/output operations.
- Error-handling routines which allow one task to recover or abnormally terminate while processing continues assuring that operator intervention is kept to a minimum.
- Automatic scheduling and loading of programs into memory
- A set of diagnostic routines which test all of the hardware units and isolate faults.

The vendor should indicate the availability of the software documentation, including source code and design, programming, and operational documentation. The proposer should describe the provisions for access to the program source code in case the proposer is unable to maintain the system.

### Report Generator

The vendor should describe the report generator. This should be included in the system at no additional cost.

### Hardware

The proposer should itemize the necessary hardware which will support the functional requirements of the RFP. The central processing unit must have sufficient input/output paths, main memory and other features to perform the workloads described by the Library.

## Security

Vendor should describe security features available on the proposed system, including a description of the terminal and operation authorization level. At least five (5) levels of authorization must be provided.

Functions not authorized for use by the public must not be accessible from terminals assigned to the Public Access Catalog. Entry into all other functions except inquiry must be impossible from the Public Access Catalog terminals, even through passwords. A method of preventing determination of users' passwords must be provided and the Library must be able to change or delete passwords and to change functions authorized to passwords at will.

The Library must be able to specify which functions can be performed at individual terminals.

Access to the software modules and submodules must be modifiable by the library system operators without vendor intervention.

The System should not display the modules and submodules for which an individual does not have access privileges.

## Ownership

The vendor must guarantee ownership of local databases and not restrict the use of these databases or their bibliographic or item records by the Library.

## Lease Purchase Options

The proposer should detail lease terms and conditions that are available. A non-appropriation clause must be included. Final lease/purchase terms will be determined as part of the contract negotiations.

## Evaluation Process

Proposals meeting the requirements of the RFP will be evaluated principally in the following areas, but will not be limited to:

Compliance with system specifications especially for electronic interlibrary loan and union catalog functions.

- Response times and reliability (both hardware and software).
- Integration of system functions.
- Hardware and software maintenance services.
- Proposed system delivery and implementation schedule.
- Vendors reputation, experience and performance.
- Total system costs, including ongoing maintenance and supplies.
- Capability for system expansion and upgrading.
- Financial credibility of the vendor.

## **DESCRIPTIONS**

The Library wishes to obtain proposals which can be readily compared to facilitate proposal evaluation. Therefore, vendors are encouraged to use the following language and definitions when responding to the specifications:

### **Available**

In use at all user sites. If the function is always available at all user sites and some users choose not to use the function, consider the function "Available."

### **Available/Modified**

The function is available in a slightly different way. the vendor is responsible for proving the function is still available.

### **Testing/date**

Currently the function/module is being tested in-house or at beta sites. The function/module is capable of being demonstrated. Provide the date the feature will be available.

### **Development/date**

The function/module is in development with draft specifications available. Provide the date the feature will be available.

## Planning

The function/module is in planning.

## Not Planned

Not currently available or planned.

## MISSOURI STATE LIBRARY STATISTICS

The following is a list of statistics of current activities at the Missouri State Library.

1. Requests from state employees for photocopied journal articles from "Info-to-go."

1993 .....	19,103
1992 .....	20,698
1991 .....	17,413
2. Copies of "Tables of Contents" routed to state employees.

1993 .....	7,785
1992 .....	8,722
1991 .....	6,438
3. Copies of articles supplies from the "Table of Contents."

1993 .....	5,622
1992 .....	3,962
1991 .....	4,940

4. Electronic database searches for state government employees  
(these searches were limited due to the cost involved and  
the lack of staff to provide the searches).
 

1993	145
1992	242
1991	236
  
5. Reference and research requests from state government  
employees and agencies (the number of requests were  
limited due to the lack of staff available to provide the  
service).
 

1993	3,037
1992	3,611
1991	3,749
  
6. Reference and research requests from non-state government, i.e.,  
public libraries, local government, school, students, and the  
general public (these requests were limited even more than  
# 5 since the primary focus of the state library is aimed at  
state government).
 

1993	2,312
1992	2,610
1991	2,608
  
7. Interlibrary Loan requests for state employees and agencies.
 

1993	3,180
1992	3,495
  
8. Reference and research requests for Census information.



1993 . . . . .	1,160
1992 . . . . .	1,200

9. The inventory of the Missouri State Library as of December 1993.

A.	Cataloged books . . . . .	80,258
B.	Microforms	
i.	microfilm reels . . . . .	9,212
ii.	microfiche sheets . . . . .	385,584
	Total Microforms . . . . .	394,796
C.	State and Federal Documents	
i.	Federal . . . . .	157,973
ii.	State . . . . .	45,391
	Total Document Collection . . . . .	203,364
D.	Periodical subscriptions . . . . .	400
E.	Bound Periodical Volumes . . . . .	2,888
F.	Newspaper Subscriptions . . . . .	21
G.	Book Circulation . . . . .	1,821

## STATISTICS FOR MISSOURI PUBLIC LIBRARIES

	Public Libraries (Tax)	Public Libraries (Non-tax)	*Other Libraries
Collection	15,023,089	59,508	22,956,347
Capital Outlay	9,501,338	89,393	358,529
Population Served	4,638,922	42,612	NA
Number of Employees	2,205.51	17.37	1,940.65
Volumes	16,431,443	140,936	18,126,857
Volumes Added	1,061,652	13,893	401,181
Circulation	36,782,695	278,589	5,635,220

\*Includes academic, special and institutional libraries (142 reporting).

## SPECIFICATIONS:

### (1) FUNCTIONAL SPECIFICATIONS FOR THE ACQUISITIONS MODULE

#### General Information

The Acquisitions module must provide for effective fund accounting, ordering, receiving, and tracking.

1. The Acquisitions module must be available from all staff terminals on the system to users with the appropriate password.
2. An interactive record structure must be employed so that transactions on one record will cause changes in several online files.
3. The following acquisitions functions must be accommodated:
  1. Pre-order searching
  2. Ordering
  3. Claiming
  4. Cancellation of orders
  5. Receipt processing
  6. Payment
  7. Routing
  8. Fund accounting
  9. Vendor accounting
  10. Currency control
  11. Statistics and report compilation
  12. Standing orders
  13. Deposit accounts
  14. Gifts
4. A variety of types of materials must be accommodated, including but not limited to:
  1. Monographs
  2. Monographs in series
  3. Serials
  4. Law reports and statutes
  5. Continuations
  6. Documents
  7. Musical scores
  8. Government Documents
  9. Videos
  10. CD-ROMS

- \_\_\_\_\_ 5. The system must accommodate and identify items in a variety of formats, including but not limited to:
  1. Print
  2. Microfilm
  3. Microfiche
  4. Microcard
  5. Film
  6. Video (tape or disc)
  7. Audio
  8. Magnetic tape
  9. Software
  10. CD-ROM
- \_\_\_\_\_ 6. Password security for the acquisitions module must delineate a variety of access levels based on the functions performed.
- \_\_\_\_\_ 7. The system must report the current status of all titles ordered or received. The system shall track items from the time they are ordered until they are ready for circulation.
- \_\_\_\_\_ 8. Records in the acquisitions module must be updated online as soon as new or revised information is entered.
- \_\_\_\_\_ 9. The system must provide constantly updated fund information.
- \_\_\_\_\_ 10. The system must provide periodic, cumulative fund activity and commitment reports.
- \_\_\_\_\_ 11. Not used.
- \_\_\_\_\_ 12. The system must have the capability of being developed to permit online and off-line communications with, and ordering from, suppliers.
- \_\_\_\_\_ 13. Data stored in the acquisitions files must include but not be limited to:
  1. Bibliographic information
  2. Acquisitions type (order, gift, approval, etc.)
  3. Status information (reported, received, etc.)
  4. Library/copy/fund information
  5. Invoice information
  6. Vendor information

- 7. Vendor report information
- 8. Accounting information
- 9. Requestor
- 10. Location (i.e., destination)
- 11. Instructions to vendor (free text)
- 12. Internal Processing instructions (free text; nonprinting on order form)

- 14. An appropriately authorized user must be able to retrieve and change existing acquisitions records online.
- 15. The system must be capable of printing purchase orders on 8 1/2 by 11 inch and 3 by 5 inch multiple part forms.
- 16. The system must be capable of outputting purchase orders on paper forms for single title and multiple title orders..
- 17. The system must be capable of transmitting an order online such as accords with the NISO and BISAC online ordering standard. Specifically, the system must transmit to Baker and Taylor, and Ingram, among others.
- 17A. The system must be capable of downloading a bibliographic record from a materials vendor as a part of the Preorder search.
- 18. It must be possible to key in new acquisitions records.
- 19. The system must support the selection of bibliographic records from a bibliographic utility for titles to be ordered and to load the records into the acquisitions file either online or off-line.
- 20. The system must be capable of supporting the selection of bibliographic records from a bibliographic utility for titles to be ordered, and to load the records into the acquisitions file either online or off-line.
- 21. The system must support the loading of vendor-supplied MARC-formatted tapes of bibliographic data for approval plan materials.

- \_\_\_\_\_ 22. An acquisition record must be accessible online through at least the following access points:
1. Purchase order number
  2. Main entry
  3. Title
  4. Author/title key
  5. Variant title
  6. Subtitle
  7. Series title
  8. Conference title
  9. Key word in title
  10. Library of Congress Card Number
  11. ISSN/ISBN
  12. Bibliographic utility assigned number
  13. Person requesting the order
  14. Vendor name

\_\_\_\_\_ 23. Not used.

\_\_\_\_\_ 24. Access to partial records also must be available.

\_\_\_\_\_ 25. The acquisition record must contain a cumulative status information element to provide a history of the order.

\_\_\_\_\_ 26. It must be possible to request full cataloging records from a bibliographic utility and use them to update acquisition records.

\_\_\_\_\_ 27. Not used.

#### Vendor File

\_\_\_\_\_ 28. The module must accommodate an online vendor file.

\_\_\_\_\_ 29. The vendor file must accommodate vendor names and addresses (including both order address and remittance address); library account numbers; and vendor code number (including date code was created).

\_\_\_\_\_ 29A. Vendor records must be accessible by vendor identification code and an operator must be



able to add, delete, and update vendor records manually.

- 30. The vendor file must accommodate vendor performance statistics.
- 31. Each vendor record must contain a claim cycle default value.
- 32. The name and address file must be accessible from other modules.
- 33. The system must permit the recording of holds against titles on order and in process.
- 34. The system must provide a selection list feature whereby titles the Library intends to order may be recorded online in the system.
- 35. The system must be capable of maintaining routing records and producing routing slips.
- 36. Not used.

#### Receiving and Reordering

- 37. When a purchase order is complete and the invoice has been received, the acquisitions record must be flagged to permit its later deletion or transfer from the acquisitions file.
- 38. The system must be able to handle reorder from another vendor, including reorder direct.
- 39. The system must be able to "claim" invoices at a specific period of time after receipt of an order.
- 40. The system must provide for the retention of records under conditions such as: item out of print, publication canceled, order canceled, etc.
- 41. The system must be able to differentiate copies from different sources.
- 42. An acquisitions record must be created for each title on order or received.

- \_\_\_\_\_ 43. The system must permit and maintain records of out of print and other canceled orders, and shall provide for purging the same in individual, batch or automatic mode.
- \_\_\_\_\_ 44. The system must permit the creation of records for selection purposes.

#### Desiderata File

- \_\_\_\_\_ 45. The system must accommodate file(s) of desiderata, selection, or replacement lists which can be stored on the system.
- \_\_\_\_\_ 46. The desiderata file must generate "consider for re-activation" reports based on dates incorporated in desiderata records.
- \_\_\_\_\_ 47. Once an acquisition record is created, all further information must be treated as an update to the initial record.
- \_\_\_\_\_ 48. The system must accommodate the following order types:
1. Firm order
  2. Prepayment
  3. Selection list
  4. Gift
  5. Exchange
  6. Membership acquisitions
  7. On approval
  8. Blanket order
  9. Standing order
  10. Subscription
  11. Continuation
  12. Deposit
  13. U.S. Government document
  14. Library specified type #1
  15. Library specified type #2
  16. Library specified type #3
- \_\_\_\_\_ 49. For serials and continuations, the system must store in a single record data Pertaining to:
1. Beginning date of subscription
  2. Source
  3. Frequency
  4. Subscription price

- 5. Fund
- 6. Shelving location
- 7. Binding information
- 8. Date of payment
- 9. Holdings
- 10. Library
- 11. Routing information
- 12. Note field
- 13. Shipping/Handling Charges
- 14. Discount Price

- 50. Depending on the acquisition type chosen by the user, the system must display the appropriate screen format and prompts to establish the claim cycle for the order.
- 51. The system-supplied claim cycle must be capable of being overridden by the operator.
- 52. The system must display the appropriate screen format and prompts for bibliographic information to be entered or transferred from elsewhere in the system.
- 53. The system must display the appropriate screen format and prompts according to whether or not a purchase order needs to be produced.
- 54. Depending on the acquisition type selected by the user, the system must display the appropriate screen format and prompts for other order data.
- 55. The system must be capable of storing orders entered for later review and release by an authorized person.

#### Purchase Orders

- 56. For those acquisition types which require them, purchase orders must be produced.
- 57. The system must support both the production of one purchase order for each title and the combination of orders to one vendor.
- 58. The system must prohibit the assignment of duplicate order numbers, whether entered manually or assigned automatically.

- \_\_\_\_\_ 59. The system must prohibit the unintentional duplication of orders for one bibliographic item.
- \_\_\_\_\_ 60. It must be possible to order the output of the following subsets of purchase orders:
1. All purchase orders
  2. All orders for a particular vendor
  3. All orders for a particular payment type(s)
  4. All orders for a particular funds)
  5. All orders for a particular order type(s)
  6. All orders for a particular order status(es)
  7. All orders for a particular location(s)
- \_\_\_\_\_ 61. Printing of purchase orders on paper forms must be available (online or off-line) in batch mode.
- \_\_\_\_\_ 62. The system must have the ability to monitor ordering throughput by terminal number and individual password number.
- \_\_\_\_\_ 63. The following activities must be performed concurrently with the production of purchase orders:
1. Addition of purchase order number to vendor file
  2. Updating encumbrances in the fund file
  3. Sorting the purchase orders by vendor number
- \_\_\_\_\_ 64. The acquisition module must be capable of accepting, storing, and outputting information in the MARC format.
- \_\_\_\_\_ 65. The system must have the capability of transferring appropriate information from file to file.
- \_\_\_\_\_ 66. No re-keying of information already in the system shall be required.
- \_\_\_\_\_ 67. The display for an acquisitions record must include:

1. Bibliographic information
2. Acquisition type
3. Status information
4. Library/copy/fund information
5. Invoice information
6. Vendor information
7. Handling information
8. Accounting information
9. Requestor
10. Location (i.e., destination)
11. Instructions to vendor (free text)
12. Internal processing instructions (free text; non-printing on order form.

#### Status Information

\_\_\_\_\_ 68. The status information element must include:

1. Status
2. The date the status was set
3. A free text message area for further description of status

\_\_\_\_\_ 69. Valid statuses must include:

1. Record ready to have purchase order produced
2. Entered partial
3. Claimed
4. Canceled
5. Received partial
6. Received complete
7. Report information received from the vendor
8. Returned partial
9. Returned complete
10. Invoice received
11. Received without invoice
12. Invoice
13. Invoice paid
14. Reorder

\_\_\_\_\_ 70. The system must use the status information to signal the initiation of a variety of activities, such as produce purchase order, delete order, produce open order report, etc.

71. Upon completion of an acquisitions record, the system must update the bibliographic database and create a temporary copy record for each copy ordered.
72. Any change in an acquisition file must result in appropriate amendment of copy(ies) of that record in the bibliographic database.
73. The system must be capable of handling receipt of items with invoices, items without invoices, and invoices without items.
74. When receipt of an item is recorded, the system must update all files, including vendor and financial files.
75. When receipt of an item is recorded, the system must automatically update the display associated with the copy of the acquisitions record in the bibliographic file from "on order" to "in process."
76. The system must be capable of accepting new bibliographic information about a title at any time after order placement or when its receipt is recorded.
77. Upon receipt notification, the system must generate automatically a routing destination according to pre-set flags and whether the item is on approval, has been cataloged, is being cataloged, etc.
78. The system must allow such routings to be overridden by an authorized operator.
79. Upon entry of receipt information, the system must update the vendor file, including vendor report statistics.
80. When receipt of a purchase order is complete and the invoice has been received, the acquisition record must be flagged to allow its later deletion from the acquisitions file and transfer to the fund history file.
81. The system must have the capability of tracking an item through processing.
82. If an item remains in a processing area beyond a Library-specified period, the system must produce overdue reports.



- \_\_\_\_\_ 83. The system must generate a multi-part ark document to follow the item through cataloging and processing.
- \_\_\_\_\_ 84. The system must produce outputs in individual, batch, or automatic mode, including, but not limited to:
1. New or revised purchase orders
  2. Claim letters/notices/lists
  3. Cancellation notices
  4. Return notices
  5. List of cancellations
  6. Selection lists
  7. Routing notices
  8. Multi-part work documents
  9. List of items in a processing area for more than the Library-specified period
  10. New title reports
  11. Hold availability notices
  12. List of invoices not cleared
  13. Vendor lists
  14. Vendor performance reports by category of material
  15. Open order reports
  16. Fund status reports
  17. Checks or other payment vouchers

#### Searching

- \_\_\_\_\_ 85. It must be possible to perform Boolean searching using AND, OR, and NOT on acquisition records, using any fixed fields.

#### Fund File

- \_\_\_\_\_ 86. The fund file must be updated automatically to indicate file encumbrances and debits as a result of actions on the acquisition file.
- \_\_\_\_\_ 87. The fund file must be updated online as transactions occur.
- \_\_\_\_\_ 88. The system must accommodate an unlimited number of fund file records.
- \_\_\_\_\_ 89. Encumbrances must not be mandatory.

90. The fund file structure must allow for up to six levels of fund file record nesting.
91. Fund file records must include the following information:
1. Amount budgeted
  2. Amount encumbered
  3. Amount expended
  4. Uncommitted balance
  5. Beginning balance allotment (carried from previous year)
  6. Encumbrances carried from previous year
  7. Cash balance
  8. Supplementary budget appropriations
92. The system must provide an early warning alert of fund depletion when the level of an encumbered fund reaches a Library-specified value.
93. The system must permit the following temporary freezing of funds with overriding capability:
1. Freezing new order but permitting payment on outstanding orders
  2. Freezing both new orders and further payment.
94. The system must have the capability of producing reports that accommodate periods during which items are still being received against the previous year's appropriation, giving the Library the choice of reports which include or exclude these overlaps.
95. The system must be capable of reporting the number of items and titles received against a particular fund over varying periods of time.
96. The system must be capable of producing checks or vouchers for payment to vendors.
97. The system must support pre-address checks and other payment forms.
98. The system must had the capability of calculating and applying an encumbrance factor to determine an encumbrance order

price which differs from the item order price.

99.

The system must handle the conversion of foreign currency prices.

#### Invoices

100.

Lists of invoices not cleared or not cleared within a specified period after receipt must be available upon demand.

101.

Invoices must be accessible by vendor invoice number.

102.

The system must accommodate credits, refunds, and partial order payments.

103.

The system must permit the sharing of costs for orders between funds, and within libraries.

104.

The system must permit fund encumbrances and expenditures where the fund has no allocation but draws from a higher level allocation.

105.

The system must be capable of maintaining national fund files for exchange partners and donors.

106.

The funding files for exchange partners must permit separate accounting for value of items received and value of items dispatched.

107.

The system must check all arithmetic operations, both those performed by operators and those in input data such as invoices.

108.

The system must be capable of calculating average annual costs for categories of materials by type and fund.

109.

The system must be capable of retaining fund accounting information online for a library-specified period, not to exceed three years.

110.

Once fund information is no longer required to be retained online, the system must provide for output onto tape.

- \_\_\_\_\_ 111. A formatted screen must be provided for entry of vendor file data.
- \_\_\_\_\_ 112. Appropriate prompts must be provided for keying of vendor file records.
- \_\_\_\_\_ 113. The vendor files must be capable of accepting, online or offline, vendor records from the OCLC name-address file.
- \_\_\_\_\_ 114. Records in the vendor file must be accessible by both vendor name and number.
- \_\_\_\_\_ 115. Vendor file records must include the following information:
1. Vendor name
  2. Vendor address (order and remittance)
  3. Library supplied vendor claim period indicator
  4. Vendor performance statistics calculated by the system to indicate the average amount of time a particular vendor requires to fill an order
  5. Discounts by vendor and fund
  6. Vendor code (including date created)
  7. Voice, fax, and data numbers.
  8. State Contract Number and C/S Code
- \_\_\_\_\_ 116. The system must automatically produce claim notices for purchase orders for which material has not been received by the time indicated by the claim cycle recorded in the vendors record.

#### Vendor Performance

- \_\_\_\_\_ 117. Vendor performance data must include the number of items claimed and canceled.
- \_\_\_\_\_ 118. The claim cycle must be capable of being overridden for a particular purchase order.
- \_\_\_\_\_ 119. It must be possible to determine vendor performance statistics as manifested by supply times and discounts.

- 120. The system must be capable of printing the vendor file to provide a hard copy listing of all vendors used by the library.
- 121. The system must be able to accommodate an online publisher file in which each publisher can be linked to a default vendor.
- 122. The system must be capable of supporting a default vendor option.

## (2) FUNCTIONAL SPECIFICATIONS FOR CATALOGING MODULE

### General Requirements

Cataloging is the process of describing a work and assigning a call number. Cataloging includes determining the main entry, describing the work, and assigning added entries, subject entries, and a call number. The input of bibliographic records must not require the use of a workstation or modified personal computer.

### Availability Status & Reference Note

### Specification

#### Database Content

- \_\_\_\_\_ 1. The database must be efficiently organized and files sized to allow for future expansion while providing rapid access to individual records. Vendor shall describe growth capabilities of proposed system.
- \_\_\_\_\_ 2. Procedures for additions, modifications, and deletions online must be logical and easy to learn.
- \_\_\_\_\_ 3. Access methods must be simple and logical.
- \_\_\_\_\_ 4. The database must be able to store a varied number of variable length single and multiple-value fields.
- \_\_\_\_\_ 5. The system must be capable of creating and maintaining a bibliographic database with full US/MARC records and utilizing appropriate data from those files in each module.
- \_\_\_\_\_ 6. The database must store and access records for all types of media for which there is a defined MARC format. Vendor must implement additional MARC formats as they are established by the Library of Congress.
- \_\_\_\_\_ 7. Additional Library specified fields must be allowed.
- \_\_\_\_\_ 8. The bibliographic file must contain one record for each separate catalog or title entry.
- \_\_\_\_\_ 9. Records in the holdings file must be linked to the bibliographic file. Multiple copies of books, separate film prints, or individual serials issues



must share the common bibliographic file record. Vendor must identify the maximum number of item records that can be linked to a bibliographic record.

13. The system must allow for the following control fields on title records in addition to the descriptive bibliographic or holdings fields:

- a. Date added to file
- b. Last date updated and total
- c. Grand total circulation for each branch's copies
- d. Current use count for each branch since a specified date

14. The proposed system controls must allow restrictions on the input and reading of data. These controls include:

- a. Restrictions on users allowed to add, delete, or modify the bibliographic record
- b. Batch deletion of tagged title within library specified parameters (e.g., aging)
- c. The display of records for which no holdings exist only to authorized users (i.e., no display in Public Catalog without password) with the option to purge
- d. Capability for authorized operators to replace all occurrences of a data field (e.g., change collection description from "R" to "Ref") in batch mode

15. The system must print spine and pocket labels, locally or remotely.

16. The library must be able to define and edit all help screens.

#### **Bibliographic Record Maintenance**

Bibliographic record maintenance includes creating, updating, merging, and deleting online bibliographic records.

#### Availability Status & Reference Note

#### Specification

##### Creating Bibliographic/Holdings Records

- \_\_\_\_\_ 17. The vendor must convert all existing machine readable databases into the proper formats for the proposed system.
- \_\_\_\_\_ 18. The system must be capable of receiving bibliographic data directly from online and CD-ROM based bibliographic utilities (MARC telecommunications format) terminal via cable connection. Vendor shall describe available interfaces for bibliographic utilities.
- \_\_\_\_\_ 19. System must accommodate the electronic transfer of individual bibliographic records from an OCLC terminal and other utilities without changing or deleting fields from the MARC record.
- \_\_\_\_\_ 20. The system must allow records to be keyed in manually.
- \_\_\_\_\_ 21. The system must handle any MARC format (i.e., books, serials, AV, films, scores, etc.), including all fixed fields.
- \_\_\_\_\_ 22. System must accommodate the batch loading of bibliographic and authority records from OCLC archival tapes into the database without changing or deleting fields from the MARC record.

- a. Title
- b. Author
- c. Call number
- d. Imprint
- e. Publication date
- f. Edition
- g. Collation
- h. LCCN
- i. ISBN/ISSN
- j. Series
- k. General notes
- l. Content notes
- m. Subject(s)
- n. Variant title
- o. Date added or modified

p. Added entries

The Library may define additional fields. Please specify the character limit for bibliographic records. \_\_\_\_\_

- \_\_\_\_\_ 23. System must accommodate batch loading of bibliographic and authority records from OCLC archival tapes into the database without changing or deleting fields from the MARC record.
- \_\_\_\_\_ 24. Vendor must offer the capability of bibliographic and authority record transfer between libraries and facilitate bibliographic database building.
- \_\_\_\_\_ 25. System must be able to run multiple databases.
- \_\_\_\_\_ 26. All records with lower MARC encoding levels must be replaced automatically as new records are loaded into the database. An online display or printout of encoding level match problems must be generated to allow staff to make record replacement decisions.
- \_\_\_\_\_ 27. Library must have the option to overlay records and to prevent selected fields and fixed fields from being changed when overlaying records.
- \_\_\_\_\_ 28. System must generate and file all appropriate index entries for each record as it is filed into the database.
- \_\_\_\_\_ 29. The system must handle brief records for items not fully cataloged, as well as materials for which full catalog records are not created and to which only identifiers are assigned for purposes of circulation control. This format shall be defined by the Library.
- \_\_\_\_\_ 30. System must enable the manual keyboarding of individual bibliographic, copy, authority and cross-reference records into the database in MARC format.
- \_\_\_\_\_ 31. When manually creating holdings records, bibliographic information found on the bibliographic record must be automatically transferred to the holdings record.

32.

When a second or third item is added to the collection, the following fields are assumed to be the same and are copied from holdings #1:

- a. Collection
- b. Call Number
- c. Agency
- d. Item type (for circulation parameters)
- e. Publication date

should display in the "ownership position in all modules. Updating Bibliographic/Holdings Records

33.

The holdings record must contain, but must not be limited to the following fields:

- a. Title
- b. Collection
- c. Call Number
- d. Copy/volume
- e. Item type
- f. Item statistical class
- g. Owning and lending agencies
- h. Price
- i. Publication date
- j. Added/Modified
- k. Use count
- l. Date last used
- m. Hold status
- n. Patron ID numbers in hold queue
- o. Circulation statistics
- p. Number of times item renewed
- q. In-Library use statistics

34.

Holdings records must be automatically created from information contained in the 049, 099, or 949 tag.

34A.

The system must allow holdings records for all Missouri Libraries to be created from one cataloging account for all lending agencies. The code for the lending, or secondary, agency should display in the "ownership" position in all modules.

Updating - Bibliographic/Holdings Records

35. Bibliographic and holdings records may be accessed by, but not limited to the following fields:
- a. Title (both keyword and alphabetical list)
  - b. ISBN/ISSN
  - c. LCCN
  - d. Author (both keyword and alphabetical list)
  - e. Subject authority list and subject keyword
  - f. Series
  - g. Barcode
  - h. Vendor bibliographic number
  - i. Call Number
  - j. Corporate author
  - k. OCLC Control Number
36. Authority file controlled fields must take the text entered and pass it automatically as a search to the authority file. The system must then present a display of entries from which the operator may select the appropriate insert. Authorized operators may, on the spot, create new authority records if no existing records are discovered. New record should go to a review file.
37. Special functions must allow two separate title records to be combined into one record by bibliographic number or by barcode number. All associated Items must also be brought under the new heading.
38. A special function must allow a list of holdings to be displayed. The operator may then add or modify items.
39. The entire record must be displayed, but only the portion of the field to be modified will need to be re-input. The vendor must describe editing capabilities.
40. The system shall display labels for each field or subfield when information is entered. Help screens must be available and allow customization by the Library.
41. A code must be verified against a list of similar codes to verify its existence.

46. The system must allow the option of recording the following information when a holdings record is deleted from the system:
- a. Bibliographic information
  - b. Date the record was discarded
  - c. The secondary agency to which the item belonged
47. The system must alert operator when last item record is being deleted with the option to: delete the bibliographic record or place the record in a history file.
48. The system must not delete items with the status of "checked out" and must alert the operator before deleting an item with a patron hold.
49. The system must allow the operator to delete holdings records from the "holdings update function."
50. It must be possible to purge the files of inactive item and title records, based on non-use and delinquency parameters.
51. It must be possible to print a list of all titles without items attached to the title. It must be possible to exclude from the list all of these titles which have an "on order" status.
52. It must be possible to purge and clear items which appear on any patron delinquency file, based on Library parameters which can be set each time the purge is run.
53. No title should be purged if it has items associated with it or reserves placed against it.
54. It must be possible to print a report of items and/or titles which are due to be purged so that decisions can be made, physical items may be removed from the shelves, and the catalog updated.
55. This report must be available by location and for the entire system.



## Authority Control

Authority control refers to the procedures by which an authoritative form of a name or term are applied and maintained uniformly in records located in the database.

### Availability Status & Reference Note

### Specification

- |          |                                                                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _____56. | The system must provide authority files for desired fields (e.g., personal and corporate names, series, and subject headings) with appropriate cross references for each.     |
| _____57. | The system must store the full MARC-format authority records.                                                                                                                 |
| _____58. | The system must accept MARC-format authority file tapes or CDROM as well as authority files input through a keyboard.                                                         |
| _____59. | The system must accept authority records (MARC format) from a utility terminal via cable connection.                                                                          |
| _____60. | Each heading in the authority file must be linked to each occurrence of that heading in the bibliographic file so that all occurrences of a heading may be modified globally. |
| _____61. | The authority file must be available online.                                                                                                                                  |
| _____62. | The system must produce, on demand through a cataloging terminal, a listing of the authority files.                                                                           |
| _____63. | Authority files must permit appropriate "see" and "see also" cross-references.                                                                                                |
| _____64. | The system must protect against circular and blind "see" and "see also" cross references.                                                                                     |
| _____65. | Only authorized operators may add or change authority file entries. These operators must have a password for this specific function.                                          |
| _____66. | The system must allow authority records to be created from within the general bibliographic file maintenance programs.                                                        |

67. Whenever an authority file controlled field on a bibliographic record is entered or updated, the system must search the authority file to validate the forms. If the form entered already has been established, then the system must assume the form is valid. If the form has not been established, when the system must automatically display a relevant set of entries from the authority file, based on the data entered. One of the authority entries may be selected or the new authority form may be added.
68. The system must maintain only one file for each designated authority controlled field, regardless of the number of agencies sharing the database.
69. The system must allow the operator to globally update the term or phrase used in a variety of headings without having to search each heading individually. The system must allow the operator to override inappropriate changes.

## Search & Access Methods

Searching and accessing is the process of obtaining information from the memory, terminal, peripheral storage, or some other part of the computer system, making it available to a user.

### Availability Status & Reference Note

### Specification

- |           |                                                                                                                                                                                                                  |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _____ 70. | The system must use the same indexing methods described in the "Functional Specifications for the Public Access Module," specifications 15-21.                                                                   |
| _____ 71. | The system must use the same searching methods described in the "Functional Specifications for the Public Access Module," specifications 22-41.                                                                  |
| _____ 72. | A single command must extend the last search to the system wide database without re-entering the search strategy.                                                                                                |
| _____ 73. | Authorized users must be able to view complete bibliographic information for hold lists, etc.                                                                                                                    |
| _____ 74. | Operators must be able to browse the terms matching a partial key by entering the root term followed by a definition key. These may then be explicitly selected to avoid unwanted terms in the truncated search. |

Example: Libert??

The system must respond with a list of all terms matching the root, allowing the user to select only those that are appropriate.

Example	Number
1.Liberties	73
2.Libertine	6
3.Liberty	214

The user must be able to select one or more words from the list. These may be selected singly (1,2,5), in ranges (1-3), or both (1, 2-5, 10, 7-8).

75. All keyword files must have the option of limiting the search by the first initial of an author's last name, or to ignore the author's name in the search. (This can significantly reduce the time of the search and the number of records found if the author's last name is known.)

### **Bibliographic and Holdings Statistics & Reports**

Reports and statistics refers to any various on-line notices, Statistics or reports generated by specific commands given to the system or the report generator. If a report is not available as a menu choice, the vendor shall create such a report, using the report generator software, for the Library's use.

#### **Availability Status & Reference Note**

#### **Specification**

76. The vendor must describe and provide sample bibliographic and holdings statistics and reports that are available.
77. Statistics must be kept of collection characteristics in at least 250 categories defined by the Library, indicating the number of items added or owned in each category and the number of items which have circulated in the statistical period.
78. The system must provide for a report generator for custom programs to be written and generated by the library.
79. The system must allow bibliographic or holdings statistical information to be obtained from a specific field or a combination of fields on the bibliographic or holdings record.
80. The system must collect, correlate, and maintain accurate statistics for collection reports.
1. Titles added/deleted by collection code, item statistical category, call number, and by date record entered.
  2. Items added/deleted by collection code, item

statistical category, call number, and by date record entered.

### (3) FUNCTIONAL SPECIFICATIONS FOR SERIALS CONTROL MODULE

#### General Requirements

Serials Control refers to an integrated subsystem that allows staff to catalog, establish prediction patterns and enumeration for, receive, claim, circulate and otherwise control the Library's serials collection.

#### Availability Status & Reference Note

#### Specification

- \_\_\_\_\_ 1. The Serials Control module must interface with other subsystems (e.g., Circulation, Cataloging, Acquisitions, etc.).
  - \_\_\_\_\_ 1A. It must be possible to circulate any issue of any serial if the Library so desires. The vendor must specify the maximum number of holdings which may be attached to any bibliographic record.
- \_\_\_\_\_ 2. The Serials Control module must provide the capabilities to catalogue a serials title and predict, receive, and claim individual serial issues.
- \_\_\_\_\_ 3. Serials include the following:
  - \_\_\_\_\_ a. Periodicals
  - \_\_\_\_\_ b. Newspapers
  - \_\_\_\_\_ c. Annuals, Reports, Yearbooks, etc.
  - \_\_\_\_\_ d. Memoirs
  - \_\_\_\_\_ e. Proceedings
  - \_\_\_\_\_ f. Journals
  - \_\_\_\_\_ g. Transactions
  - \_\_\_\_\_ h. Monographic Series
  - \_\_\_\_\_ i. U.S. Government Publications
  - \_\_\_\_\_ j. Missouri State Publications
- \_\_\_\_\_ 4. The Serials Control module must support the US/MARC serials format and the US/MARC formats for Holdings at the Summary and Detailed level.

5. Serials Bibliographic records must be maintained and updated in both the Cataloging module and the Serials Control module.

5A. The Serials Control module must interface to serials agents, specifically EBSCO, Faxon and Turner.

### **Predicting Ability**

The ability of the system to predict the date, enumeration, and number of expected issues.

### **Availability Status & Reference Note**

### **Specification**

6. The system must be flexible enough to handle all types of publication patterns and enumeration, both regular and irregular.

7. The system must allow staff to establish several Library-defined publication patterns including, but not limited to, weekly, monthly, bi-monthly, quarterly, semi-annually, annually, monthly with two months of the year combined in one issue (e.g., July/August), and every four weeks.

8. The system must provide for at least six levels of enumeration and four levels of chronology.

9. The publication chronology and enumeration should only need to be set one time (when the title is cataloged), but authorized operators should be able to edit these patterns at anytime.

### **Receiving Issues**

The receipt (or checkin) of issues when they first arrive in the Library from the publisher or agent.

### **Availability Status & Reference Note**

### **Specification**



10. The title to be received can be retrieved by either entering a control number (e.g., ISSN or by searching the database.
11. Once the title is retrieved, the issue that is predicted by the system can be received by simply acknowledging that this expected issue is the one that is to be received.
12. If the issue to be received is not the predicted issue, the system can predict the chronology and enumeration of the following issue (or any future issue) and display those issues. Any of these issues can then be received by simply acknowledging which one(s) have been received.
13. The system must allow the Library to receive special issues or other issues with irregular chronology or enumeration.
14. The system must accommodate both centralized and decentralized check-in.
15. The system must support the check-in of multiple copies of an issue from the same or different source.
16. The system must provide the following items on an individual or batch basis: labels, routing slips, item records.
17. The system must make it possible to check-in damaged issues and to note on the record that this issue is damaged.

### **Integration with the Public Access Catalog**

The Serials module should integrate fully with the Public Access Catalog.

### **Availability Status & Reference Note**

### **Specification**

18. Current checkin information will be automatically and immediately provided to the online catalog.
- 18A. Each individual issue must be searchable by title, ISSN subject and item number.

19. The system must be able to generate a summary statement of holdings indicating branches, ceased publication information, continues and continued by information, etc.
20. At the time of check-in, the system must accommodate the automatic update of holdings information in the Public Access Catalog.
21. This statement of holdings information must make it evident if there are missing issues.
22. Location information must display with the holdings statement.

### Claiming

The Serials module shall accommodate claiming missing issues.

### Availability Status & Reference Note

### Specification

23. The system must make it possible to establish parameters for determining dates when claims should be made.
24. These claiming dates must be calculated according to the predicted arrival date of the issue. It must also be possible to define the interval between the predicted arrival date and the claims date.
25. The system must automatically generate claims according to the established parameters.
26. The system must also allow an operator to determine those titles for which the system will generate a list of potential claims for review. These claims will be generated after review.
27. It must be possible at any time for authorized staff to override claims parameters (to prevent a claim or delay the date, or to generate a claim independently of the parameters).
28. The system must be capable of producing a minimum of 3 claims (according to the parameters defined by the Library).

29.

When an issue is received, the system must cancel printing of subsequent notices.

## Cancellations

The Serials module must accommodate canceling of any titles.

### Availability Status & Reference Note

### Specification

- |           |                                                                                                                                                        |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| _____ 30. | The system must permit the Library to specify tile length of time which shall elapse after claims, before serial titles are reviewed for cancellation. |
| _____ 31. | Cancellation must include the output of cancellation notices and the display of cancellation information to Library staff.                             |
| _____ 32. | The system must automatically update the holdings statement whenever cancellation is done.                                                             |

## Routing

The Serials module shall support control of serials routing.

### Availability Status & Reference Note

### Specification

- |           |                                                                                                                                |
|-----------|--------------------------------------------------------------------------------------------------------------------------------|
| _____ 33. | The system must provide for the development and maintenance of routing lists.                                                  |
| _____ 34. | The system must prompt for the printing of routing lists when the issue is received.                                           |
| _____ 35. | The routing list must include the serial title, volume and date, the name of the recipient, and the location of the recipient. |
| _____ 36. | The system must allow a recipient to be removed from all routing lists in a single step.                                       |
| _____ 37. | The system must allow a recipient to be removed from a single routing list and not affect his/her status in any other list.    |
| _____ 38. | A single generic routing list (Senior Staff, for example) must be applied to several serial titles.                            |

39. The system must allow the order of addressees on the list to be modified by authorized staff.

### **Binding**

The Serials module must support control of the binding function.

#### **Availability Status & Reference Note**

#### **Specification**

40. The serials control module must make it possible to define parameters and maintain data indicating whether the serial requires binding.
41. The system must allow binding instructions to be entered when the title is ordered.
42. The module will also provide the demarcation of parameters defining "binding units" meaning the number of issues, volumes, etc. to be bound together.
43. The system must be able to automatically flag the holdings records of issues that are ready for binding, according to previously established parameters.
44. Binding alerts must be displayed at the Check-In screen.
45. The system must print binding notices for the Technical Services staff when the binding parameters have been fulfilled.
46. The system will produce a binding status report which will include the date sent, the date due back, color and type of binding, other specific instructions, the date returned, the cost, and other fields as specified by the Library.
47. The holdings statement in the Public Display will automatically be updated.

### **Financial Accounting**

The Serials module must support ordering, fund accounting and invoice processing for serial titles.

**Availability Status  
& Reference Note**

**Specification**

- 48.      Ordering, fund accounting, and invoice processing for serials must be integrated with the acquisition module. That is, they will proceed as for monographic acquisitions.
- 49.      Payment history and vendor data must be accessible to the staff members that are processing serial invoices.
- 50.      Budgeting by fund includes encumbering and unencumbering funds, debiting and crediting, and fund reports.

**Reports and Statistics**

The Serials module must provide a full range of status, statistical, and financial reports.

**Availability Status  
& Reference Note**

**Specification**

- 51.      The system's reports must be automatically compiled and shall be able to be generated at Library-specified intervals or as needed on demand.
- 52.      The system must provide a report of the current subscriptions by title, vendor, and expiration date.
- 53.      The system must provide a report of the materials received by collection, media type, and order.
- 54.      Fund reports must be provided which shall include appropriations, encumbrances, unencumbered balance, and total balance.
- 55.      The system must provide a report of check-in activities including the number of titles checked in by: order type, media type, and acquisition type.
- 56.      The system must provide reports of the number of issues claimed, the number of issues received, and the number of subscriptions canceled.
- 57.      The system must collect, correlate, and maintain accurate statistics serials reports.



#### (4) FUNCTIONAL SPECIFICATIONS FOR PUBLIC ACCESS CATALOG

##### General Requirements

Public Access refers to an integrated subsystem that allows patrons to search and browse, according to Library specified parameters, the bibliographic database. Records shall be updated in real time. The Union Catalog and the State Library catalog must be separately searched.

##### Availability Status & Reference Note

##### Specification

- \_\_\_\_\_ 1. The Public Access Catalog must be integrated with other subsystems (e.g., Circulation, Cataloging, Acquisitions, etc.), but the union catalog must be separately manageable from the State Library's database.
- \_\_\_\_\_ 2. The system must provide Library patrons and staff with online access to the bibliographic records in the union catalog and the databases of the State Library.
- \_\_\_\_\_ 3. The system must allow the patron or staff through simple search queries, determine (1) if desired items are owned, (2) which libraries they are held by, (3) where they are located (shelving location, an call number, State Library only), (4) intellectual level, (5) whether or not they are available (State Library only), and (6) change order of display.
  - \_\_\_\_\_ 3A. For union listing locations no status information is to be displayed, but name and location of library must be displayed.
  - \_\_\_\_\_ 3B. The system must allow the library to turn the availability status on and off by location.
- \_\_\_\_\_ 4. The Public Access terminals must be restricted to inquiry mode only in catalog, holdings, and status information. Please explain the system's security.
- \_\_\_\_\_ 5. It must be possible to qualify searches by date of publication, location, language, and type of media; as part of the initial search and/or after the system determines that more than one record matches a search argument.

Media qualifiers must include: monographs, lists serials, manuscripts, musical scores, maps, projected media, spoken-word recordings and musical records, i.e., all MARC formats.

- \_\_\_\_\_ 6. The system must be menu and command driven. Special programmable function keys must also be available.
- \_\_\_\_\_ 7. The online catalog must be easy to use both by novices and experienced users with minimal experience, and assistance from Library personnel.
- \_\_\_\_\_ 8. Help screens must be available at any point in a search function sensitive. Three levels of help screens must be available. These screens must be Library definable. Default help screens should be provided by the vendor.
- \_\_\_\_\_ 9. Help screen must at a minimum

  - + allow the user to track his/her search strategy, outlining the menu options and inputs which led to the current screen.
  - + explain the commands on the command line.
  - + provide help screens which are specific to the user's current position in the search strategy.
- \_\_\_\_\_ 10. After reading a help message, the system must return the patron immediately to the search point previously reached.
- \_\_\_\_\_ 11. The system must allow the patron to move backward and forward in a search, exploring alternative paths without having to retrace the entire original search.
- \_\_\_\_\_ 12. The system must allow the Library to modify and customize screen displays and the help messages. Multiple versions of the help screens must be available.
- \_\_\_\_\_ 13. The Library must have the option of allowing patrons to place holds.

- 14. The system must support touch screen terminals or other means of accommodating physically impaired patrons (describe if other than touch screen).
- 14A. The system must support terminals for the visually impaired offering visual enhancement and/or vocal presentation of screen information (describe).
- 14B. The system must have the capacity to access CD-ROM reference databases and periodical article databases from a menu that also offers PAC searches. The same search "engine" must be used.
- 14C. The system must have the capacity to access tape-loaded reference databases and periodical article databases from a menu that also offers PAC searches. The same search "engine" must be used.

## Indexes

Indexes refers to the identifier which allows the system to search and locate specific records in a file.

### Availability Status & Reference Note

### Specification

- \_\_\_\_\_15. The system must provide access to the bibliographic file indexes which a Library chooses to build. The system must allow the Library to specify any MARC field or any identifiable portion thereof for inclusion in the index to the database.
- \_\_\_\_\_16. The system must allow the Library to choose any field or combination of fields to build indexes. The system must allow, at a minimum, the following index schemes:
- a. Keyword
    - Title
    - Title series
    - Subject
    - Contents
    - Topical
    - General
    - Corporate
  - b. Authority
    - Author
    - Subject
    - Series
  - c. Exact Match
    - ISBN
    - ISSN
    - Barcode
    - Bib. Number
    - OCLC
    - WLN
    - RLIN
    - GPO Item Number
    - LC Card Number
  - d. Other
    - MODOC Class Number
    - Dewey Decimal Call Number
    - LC Call Number

- Alphabetical Title
- Material Type
- Phrases

17. The system must allow the Library the option of building indexes and searches for staff use only or if desired, for the public as well. The system must provide at a minimum those listed above.
18. The system must allow for the following sorting flexibilities:
  - a. Index entries must be based on at least the first 64 characters of the field.
  - b. Basic sort order must be spaces, numerals, then alpha characters.
  - c. Apostrophes, quotation marks, parentheses, brackets, diacritics, and hyphens must be ignored. All other punctuation and special characters should be treated as spaces.
  - d. Multiple continuous spaces or space equivalents must be compressed to a single space.
  - e. The system must translate characters (e.g., the ampere and (&) translates to AND, the percent (%) sign translates to PERCENT, etc.).
  - f. Character casing must be disregarded.
  - g. The system must allow the default sort order for each index to be specified by the Library.
19. The system must allow the use of Library-specified stop words to be instituted when desired.
20. The system must also allow for a Library-specified synonym list.

- \_\_\_\_\_21. The system must allow the Library to define search menus and prompts.

### Searches and Inquiries

The process of obtaining information from the memory, terminal, peripheral storage, or some other part of the computer system.

#### Availability Status & Reference Note

#### Specification

##### General Searching

- \_\_\_\_\_22. The system must enable patrons to search the holdings of a specified default group of libraries or all of the libraries in the system.
- \_\_\_\_\_23. The system must allow author, title, and subject searches, with no requirement that users enter a full heading or derived search keys.
- \_\_\_\_\_23A. Authority control capabilities of the system should be inherent in the Public Access Catalog. When a user enters any name, title or subject in a search, all bibliographic items associated with that form should be retrieved, regardless of whatever the name the author may have used or whatever variant form may have been chosen.
- \_\_\_\_\_24. The system must ignore and forgive variations in punctuation, spacing, and use of upper and lower case letters and special characters such as diacritics.
- \_\_\_\_\_24A. The system shall use MARC non-filing indications, and assist the user to locate titles if she enters the initial article.
- \_\_\_\_\_25. The system must retain on the screen the term or terms used as a search argument for an inquiry against the data base until the user goes to another search, to allow checking for errors in input if no matches are found and to validate which terms were found in the system.
- \_\_\_\_\_26. The system must have easy-to-follow prompts throughout the inquiry process.



- \_\_\_\_\_ 27. The system must return promptly and directly to the beginning of the search process when requested, or upon completion of a search.
- \_\_\_\_\_ 27A. The system must provide a time-out period to return to the introductory screen after a library-defined time period. It should be possible to have some terminals never time-out.
- \_\_\_\_\_ 28. The system must display the options for the next stage of a search process as each preceding stage is completed.
- \_\_\_\_\_ 29. The system must allow implicit Boolean searches. That is, the system allows users to enter keywords without Boolean connectors and process a search as if "AND" connectors were used.
- \_\_\_\_\_ 30. The system must allow both internal and right-hand truncation capabilities. Implicit Boolean searching using a default "adjacency" operator should also be possible, along with explicit Boolean searching. Users must be able to use "and," "or," "not," operators both inside the same index or across indexes.
- \_\_\_\_\_ 31. The system must allow multiple terms in using Boolean operators,
- \_\_\_\_\_ 32. The system must return with a summary list of all keys found from a Boolean "OR" of all terms displayed.
- \_\_\_\_\_ 33. System must allow proximity searching using the Boolean operators "Near" and "within" and the system must had the capability to index for keyword searching all subject fields, as well as other commonly indexed fields.
- \_\_\_\_\_ 34. The system must permit browsing through the catalog (including the authority control file) by allowing users to enter the best available form of search arguments and then display index entries in the alphabetic neighborhood of the terms entered.
- \_\_\_\_\_ 35. For search of the State Library's collection only, the system must display the call number of an available copy on the shelf.

36. The system must inform the user of the number of records which satisfy the search specifications and display brief bibliographic data for them as specified in #41. In record select mode, the user is then able to page forward and backward through the individual title records.
37. The system must allow the user to ask for the display of more bibliographic data and for item status for one of the listed entries and, if desired, to return to the previous screen display.
38. At any level of record select mode, the system must allow the user to return easily to the browsing mode or the search mode.
39. The system must automatically include "see" and "see also" references in the alphabetical listing of the authority forms in the authority list to direct the patron to the valid form.
40. The system must allow the user to browse the authority list.
41. The system must provide search limiting by bibliographic elements taken from the bibliographic database as well as elements such as collection code from the holdings file. Multiple search limits shall be allowed on a single search. Title or "hit" counts shall accurately represent the limited search result.

### Search Results

The display of information made available to the user after a search or inquiry.

### Availability Status & Reference Note

### Specification

42. The system must display a brief record, with locations of holdings shown, if more than one location holds a particular title. The Library determines the order of display.

- \_\_\_\_\_ 42A. The system must retain a minimum bibliographic display on each holdings screen. Indicate the maximum \_\_\_\_\_ and minimum \_\_\_\_\_ number of locations that can be displayed on a screen.
- \_\_\_\_\_ 43. The system must indicate the status of items displayed as a result of a search (on order, in process, in circulation, on shelf, lost, missing, pending order, etc.)
- \_\_\_\_\_ 44. The system must indicate branch and location in branch for each item displayed.
- \_\_\_\_\_ 45. The system must, when a search query has been input, allow for the following displays:
- a. A summary screen of hits. The Library must be able to define the sort order for each type of search.
  - b. Bibliographic display. The Library must be able to define the display for each form of MARC format in either a labeled display or card display.
  - c. A detail summary screen displaying at a minimum the following information: author, title and location.
  - d. The Library must have the option to display the full MARC record.
- \_\_\_\_\_ 46. The system shall allow creation of individual bibliographies which may then be printed with full bibliographic citations to local or remote printers.
- \_\_\_\_\_ 47. The system must provide for printouts of search results, either on a printer attached to the CRT terminal or at another location.

#### **Dial-in Access**

The system should allow patrons and staff to dial into the system from outside places.

- \_\_\_\_\_ 1. The system must allow patrons and staff to dial into the Library from a remote terminal and gain access to all of the public access functions available to the standard in-house PAC users.
- \_\_\_\_\_ 2. Time-out features for dial-access and remote terminals should be available to log the user off the system after a library-specified time period of inactivity, to permit other users access to the dial-up lines. It must be possible for the library to permit some users to not be logged off, such as staff or selected libraries.
- \_\_\_\_\_ 3. Patrons must be able to choose the correct terminal emulation from a menu so they can use their existing personal computers and terminals.
- \_\_\_\_\_ 4. The system must employ a simplified logon procedure.
- \_\_\_\_\_ 5. A "return" should be used for wake-up of CPU for login.
- \_\_\_\_\_ 6. The operating system, vendor software, and the Library's files shall be fully protected from tampering through dial-in access by patrons.
- \_\_\_\_\_ 7. Sample dial-in instructions for patrons shall be provided In Volume II.

## (5) FUNCTIONAL SPECIFICATIONS FOR INTERLIBRARY LOAN

### General Requirements

Interlibrary Loan (ILL) allows a library to locate a title, place a request for the title, route requests, track materials loaned to other libraries and of materials borrowed from other libraries. Interlibrary Loan will be available to all libraries for which an account has been established by the State Library. Interlibrary Loan shall not be limited by the fact that a library does not utilize the circulation

- \_\_\_\_\_ 1. The system shall allow the Library to point each union listing to a region. These regions must be able to be defined and redefined by the Library system administrator as necessary.
- \_\_\_\_\_ 2. The system shall allow the establishment of hierarchical lending strings for each region.
- \_\_\_\_\_ 3. The system shall identify libraries which are a) non-lenders or b) do not accept electronic ILL.
- \_\_\_\_\_ 4. The system must provide a online directory updatable by authorized staff and expandable without additional profiling with the following minimum information.
  - a. Library name
  - b. Library address
  - c. Interlibrary loan contact
  - d. Voice and fax numbers
  - e. E-Mail Code
  - f. Van route
  - g. Notes field
- \_\_\_\_\_ 5. The system must allow for profiling of holdings displays by pass word so that a library searching the union catalog from a specific region will first see holdings displays for libraries in the same region.
- \_\_\_\_\_ 6. The library must be allowed to toggle to another regional display from the local regional display or choose a "display all" without reentering the search.

### Operation

- \_\_\_\_\_ 7. From an online catalog searched records may be saved for interlibrary loan.

8. System shall transfer the bibliographic data from the MARC record for saved records to an online form which will adhere to ALA standards.
9. A library may select to direct a request to a specific lending library listed as owning it or may default to the automatic lending string. In either case, necessary information regarding the "owning" library will be supplied by the system and automatically entered into the ILL form.
10. The system shall allow a dial access user the ability to print out the ILL request form at a local printer.
11. In the case of automatic routing of ILL's, if the first lending library in a string responds negatively or does not respond at all within a set period of time, the system will automatically forward the request to the next library in the string, etc.
12. In the case of automatic routing of ILL's, if a library sends the requested material, the routing will terminate and a message will be sent to the requesting library that the material is being sent.
13. The system must be able to print out a predefined routing slip at the requesting library.
14. The system must allow for requests to be placed to a defined group of libraries or all libraries for titles not in the union catalog using the same standard request form.
15. The system must allow for a "date needed by" to be entered into the request that will stop the request process after that date.
16. The system must provide a daily record of interlibrary loan activity showing the current status of each request by library.
17. The system shall allow a library to check on the status of a request at any time.
18. A minimum the system must keep the following statistics for each union listing library, by month and year:
  - a. Number of titles loaned



- b. Number of titles requested
- c. Number of titles borrowed

## (6) FUNCTIONAL SPECIFICATIONS FOR CIRCULATION MODULE

### Checkout

The Checkout procedure is the process of loaning library materials to a valid borrower for a specified period of time.

### Availability Status & Reference Note

### Specification

#### Standard Checkout Procedures

1. The system must allow entry of the borrower's and item's identification, using a light pen, laser scanner, or keyboard. These inputs should be supported by full online patron and collection files.
- 1A. The system must be menu and command driven. Special programmable function keys must also be available.
2. The system must provide a check digit algorithm to assure that the numbers have been accurately entered. The system must alert the operator visually and audibly when the barcode label is incomplete or incorrect.
3. The operator must access a patron's record by barcode entry and partial or full name search. The system must also provide for manual entry of a portion of a patron barcode number.
4. The system must check out items when borrower's card is not presented.
5. The system must use a temporary record and permit circulation of library materials which are not yet in the bibliographic data base. At checkin, the system should alert the operator that only a temporary record exists, allowing the operator to complete the remaining fields.

- \_\_\_\_\_ 6. The system must automatically display on the checkout screen: patron name, patron barcode number, patron identification number, item identification number, short title, due date and time (if applicable). outstanding blocks must be automatically displayed when the patron record is accessed.
- \_\_\_\_\_ 7. The operator must have the option of initiating a screen print as a receipt for the patron.
- \_\_\_\_\_ 7A. It must be possible for the system to produce an itemized date due slip.
- \_\_\_\_\_ 8. The system must checkout items with missing barcodes.
- \_\_\_\_\_ 9. The system must allow a group charge in a single operation.
- \_\_\_\_\_ 10. The system must charge/transfer materials to special borrowers/ locations (e.g., bindery, mending, etc.).
- \_\_\_\_\_ 11. The system must checkout multiple items after entering a single patron.
- \_\_\_\_\_ 12. The system must list outstanding holds for a patron on demand.
- \_\_\_\_\_ 13. The system must automatically switch patron records if a patron barcode is entered when an item barcode is expected.
- \_\_\_\_\_ 14. The system must checkout materials which have been temporarily reassigned or transferred from another branch or borrowed from another library.
- \_\_\_\_\_ 15. The system must detect items that have not been checked-in, allowing for a checkin-out function.

#### Special Checkout Features

- \_\_\_\_\_ 16. The system must "time out" after a Library-set interval (in seconds) to prevent items being charged to subsequent patron on the previous patron validation.
- \_\_\_\_\_ 17. The system must have an automatic address check to maintain patron records.

#### Checkout Parameters

- \_\_\_\_\_ 18. The system must allow the Library to determine circulation parameters according to item and patron (e.g. loan periods, fine rates, etc.).
- \_\_\_\_\_ 18A. Standard loan periods are automatically assigned at check out as a function of borrower category an-or type of material.
- \_\_\_\_\_ 19. The system must allow the operator to easily adjust an item's assigned due date via the terminal keyboard for individual or unique conditions.
- \_\_\_\_\_ 20. The system must allow any item to be checked out for any period of time (days or hours).
- \_\_\_\_\_ 21. The system must allow and adjust loan periods for holidays and closed Library hours.
- \_\_\_\_\_ 22. The system must allow the Library to define the grace period used in calculating overdue items, fines, notices, etc.
- \_\_\_\_\_ 23. The system must alert the operator if the loan period of the item is not the patron's standard period, so that the borrower can be given the correct due date.

#### Checkout Restrictions

- \_\_\_\_\_ 24. The system must automatically alert the operator in the event of a patron or item block (e.g. non-circulating item, patron registration has expired, etc.). Such blocks must require operator acknowledgment before checkout can proceed.
- \_\_\_\_\_ 25. Item and patron blocks must be Library-defined. The system should allow the operator to easily access a display, detailing reasons for block(s). All blocks must have the option to be overridden by an authorized operator.
- \_\_\_\_\_ 25A. Block codes must link to the patron's balance or fine level set at a certain dollar level, and the system must provide the ability to restrict overrides at the password/security level. The system administrator may create new block codes.
- \_\_\_\_\_ 26. The system must block items that are non-circulating.

- \_\_\_\_\_ 27. The system must check to see if an item is being held, blocking the checkout if an item is in the hold file. The system must allow an authorized operator to override the block.
- \_\_\_\_\_ 28. The system must alert the operator if no record exists for the patron entered, allowing for easy addition (completing only required fields on the patron record) and full checkout on first visit.

### Renewals

A renewal extends the amount of time that a patron can borrow a library item.

### Availability Status & Reference Note

### Specification

#### Standard Renewal Procedures

- \_\_\_\_\_ 29. The renewal feature must follow the same procedures in checkout as specified in "Checkout" I-28.
- \_\_\_\_\_ 30. The system must allow the operator to renew all items or an easily specified list of items. A single command should cause the system to renew materials without having to enter each item separately.
- \_\_\_\_\_ 31. The system must allow patrons to renew items from other locations by phone or in person.
- \_\_\_\_\_ 31A. The system must allow for automated telephone renewal.

#### Renewal Parameters

- \_\_\_\_\_ 32. The system must automatically calculate a new due date based on Library-set parameters for renewals.
- \_\_\_\_\_ 33. The system must allow the patron to renew overdue items with the request of payment or no payment. This must require an authorized operator.
- \_\_\_\_\_ 34. The system must automatically tabulate and display all fines for each overdue item renewed and must post any unpaid amounts to the borrower's account.

- \_\_\_\_\_ 35. The system must allow the operator to manually change the due date of renewed items.

#### Renewal Restrictions

- \_\_\_\_\_ 36. The system must automatically alert the operator of a patron or item block (e.g. non-circulating item, patron registration has expired, etc.). The operator must acknowledge the block before the renewal can proceed.
- \_\_\_\_\_ 37. Item and patron blocks must be Library defined. All blocks must have the option to be overridden by an authorized operator.
- \_\_\_\_\_ 38. The system must allow the Library to restrict the number of renewals that can be made by a patron in present or by phone according to the patron or item type.
- \_\_\_\_\_ 39. The system must block the renewal of an item when the item has been placed in the hold file. The system must allow an authorized operator to override the block.

#### **Checkin**

Checkin is the process by which the system verifies return of loaned materials and disassociates items from borrower information.

#### **Availability Status & Reference Note**

#### **Specification**

#### Standard Checkin Procedures

- \_\_\_\_\_ 40. The system must checkin items using (a) the current date and time, (b) yesterday's date (for book drop-returns), and (c) date and time specified by the Library.
- \_\_\_\_\_ 41. The system must checkin multiple items after entering a single patron.
- \_\_\_\_\_ 42. The system must checkin items by entering the item barcode by light pen, laser scanner, or keyboard.

43. The system must accept the item barcode alone at checkin. The system must also provide for manual entry of a portion of an item barcode number.
44. The system must checkin items whose barcodes are missing.
45. The system must allow the operator to initiate a screen print as a receipt for the patron.
46. The system must allow the following display name, ID of patron, title, and due date of item at checkin.
47. The system must provide an option of "exempt charges" that will not assess a fine or fee to a patron as individual cases arise. This shall be a passworded function.
48. The system must disassociate the link between the item record and patron record at checkin. A history of the patrons checkout transaction should not be maintained.

#### Special Checkin Procedures

49. The system must alert the operator at checkin if an item is on hold, displaying either the name of the patron who has requested the hold or instructions for notifying the patron. The system must require operator acknowledgment before proceeding with the checkin.
50. The system must allow the operator to access information about the item being checked in without leaving the checkin function. The system must provide at least the following information: item barcode number, patron's name, patron's ID number, item title, and due date of item.
51. The system must allow the operator to search the item being checked in (e.g., in the event of a missing barcode, etc.) without leaving the checkin function.
52. The system must allow the operator the option of initiating a screen print as a receipt for the patron.

#### Checkin Parameters



53. The system must allow the operator to via a detail screen of the block without leaving the checkin function.
54. The system will alert the operator when items checked in have one of the following statuses:
- a. In transit
  - b. On hold
  - c. Needs full cataloging
  - d. Lost item (Found)
  - e. Missing item (Found)
  - f. Claims returned
  - g. Not on file
  - h. Item charged to another location

#### **Overdues, Fines, and Notices**

Overdues are any item that exceeds the system or library specified loan period. Fines refers to monies charged to a borrower for violating library specified circulation policies.

#### **Availability Status & Reference Note**

#### **Specification**

##### Fines

55. The system must provide for an optional Library-defined grace period before a fine is charged. It also must be possible to declare a fine-free period of time.
56. The system must block patrons with overdue materials or unpaid fines with the option to override.
57. The system must allow an authorized operator to attach a special block or fee to a patron record for any reason. The system must allow a free form text message to be associated with the block.

- \_\_\_\_\_ 58. The system must clear patron records of old blocks according to a specified date. Cleared records may be purged.
- \_\_\_\_\_ 59. The system must calculate and display fines at time of checkin or renewal. Full or partial payment may be accepted at checkin. The system must permit a free text message for each line.
- \_\_\_\_\_ 60. The daily charge computation must be able to take into account the Library holidays and other closed days.
- \_\_\_\_\_ 61. The system must print receipts for fines paid showing date, time, amount, and items for which money was received with a screen printer.
- \_\_\_\_\_ 62. The system must permit a free text message for each line when accepting payment for fines or fees.
- \_\_\_\_\_ 63. The system must permit an authorized operator to waive or modify system assigned charges. The system must prompt for an operator ID or password (e.g., initials, employee number, etc.).
- \_\_\_\_\_ 64. The system must allow an authorized operator to access on-line the patron's fines and payments record, itemizing the details of each block.
- \_\_\_\_\_ 65. The system must maintain a record of fines or fees levied, fines or fees waived. Figures and statistics must be accurately compile and reported.
- \_\_\_\_\_ 66. For audit purposes, the system must track fines or fees collects by the workstation.
- \_\_\_\_\_ 67. System must set a maximum fine amount and number of overdues which can be overridden with an authorized password.
- \_\_\_\_\_ 67A. The system must support a circulation terminal with a cash register drawer.
- \_\_\_\_\_ 67B. The system must allow for positive and negative patron account balances.

- \_\_\_\_\_ 68. The system must print (on demand) billing notices for patrons exceeding the threshold levels of unpaid fines or the number of overdues. Please provide a sample notice.
- \_\_\_\_\_ 69. The system must, on demand, print overdue notice reminders all materials overdue since the last printing or subsequent notice reminders. Please provide a sample notice.
- \_\_\_\_\_ 70. The system must prepare a Final Notice incorporating the replacement price of the item. Please provide a sample notice.
- \_\_\_\_\_ 71. The system must allow the printing of notices to be on the same form as holds, recalls, billings, etc. This means a savings in handling time, postage costs, and paper usage. Please provide sample notice.
- \_\_\_\_\_ 72. If a book billed as a "lost book" is returned to the library, the system must automatically cancel the lost status and must produce a bill for outstanding overdue fines. Should the money have already been collected, credit due the patron must be prepared, minus processing fee.
- \_\_\_\_\_ 73. The system must purge outstanding bills for fines within specified dates.
- \_\_\_\_\_ 74. The system must create billing notices for damaged items.
- \_\_\_\_\_ 75. The system must be able to reprint (or partially reprint) a run of bills, notices, etc., within the same day.
- \_\_\_\_\_ 75A. The system must produce, on demand, a printed list sorted patron last name or zip code of all delinquent borrowers above Library established threshold of items overdue or level of debt.
- \_\_\_\_\_ 76. The system must allow the operator to determine the message text of all notices and modify them without programmer intervention.
- \_\_\_\_\_ 77. The system must include unpaid balance for fines and bills to included on all patron and availability notices.

- \_\_\_\_\_ 78. The system must print a list of items tagged as lost during a specified time period.
- \_\_\_\_\_ 79. The system must permit an operator to tag an item as "borrow claims item returned," and must keep a record of such tags.
- \_\_\_\_\_ 14. The system must checkout materials which have been temporarily reassigned or transferred from another branch or borrowed from another library.
- \_\_\_\_\_ 15. The system must detect items that have not been checked-in, allowing for a checkin-out function.

#### Special Checkout Features

- \_\_\_\_\_ 16. The system must "time out" after a Library-set interval (in seconds) to prevent items being charged to subsequent patron on the previous patron validation.
- \_\_\_\_\_ 17. The system must have an automatic address check to maintain patron records.

#### Checkout Parameters

- \_\_\_\_\_ 18. The system must allow the Library to determine circulation parameters according to item and patron (e.g. loan periods, fine rates, etc.).
- \_\_\_\_\_ 18A. Standard loan periods are automatically assigned at check out as a function of borrower category an-or type of material.
- \_\_\_\_\_ 19. The system must allow the operator to easily adjust an item's assigned due date via the terminal keyboard for individual or unique conditions.
- \_\_\_\_\_ 20. The system must allow any item to be checked out for any period of time (days or hours).
- \_\_\_\_\_ 21. The system must allow and adjust loan periods for holidays and closed Library hours.
- \_\_\_\_\_ 22. The system must allow the Library to define the grace period used in calculating overdue items, fines, notices, etc.
- \_\_\_\_\_ 23. The system must alert the operator if the loan period of the item is not the patron's standard period, so that the borrower can be given the correct due date.

### Checkout Restrictions

- \_\_\_\_\_ 24. The system must automatically alert the operator in the event of a patron or item block (e.g. non-circulating item, patron registration has expired, etc.). Such blocks must require operator acknowledgment before checkout can proceed.
- \_\_\_\_\_ 25. Item and patron blocks must be Library-defined. The system should allow the operator to easily access a display, detailing reasons for block(s). All blocks must have the option to be overridden by an authorized operator.
- \_\_\_\_\_ 25A. Block codes must link to the patron's balance or fine level set at a certain dollar level, and the system must provide the ability to restrict overrides at the password/security level. The system administrator may create new block codes.
- \_\_\_\_\_ 26. The system must block items that are non-circulating.
- \_\_\_\_\_ 27. The system must check to see if an item is being held, blocking the checkout if an item is in the hold file. The system must allow an authorized operator to override the block.

### Checkin Parameters

- \_\_\_\_\_ 53. The system must allow the operator to via a detail screen of the block without leaving the checkin function.
- \_\_\_\_\_ 54. The system will alert the operator when items checked in have one of the following statuses:
- a. In transit
  - b. On hold
  - c. Needs full cataloging
  - d. Lost item (Found)
  - e. Missing item (Found)
  - f. Claims returned
  - g. Not on file
  - h. Item charged to another location

## Overdues, Fines, and Notices

Overdues are any item that exceeds the system or library specified loan period. Fines refers to monies charged to a borrower for violating library specified circulation policies.

### Availability Status & Reference Note

### Specification

#### Fines

- |           |                                                                                                                                                                                                  |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _____ 55. | The system must provide for an optional Library-defined grace period before a fine is charged. It also must be possible to declare a fine-free period of time.                                   |
| _____ 56. | The system must block patrons with overdue materials or unpaid fines with the option to override.                                                                                                |
| _____ 57. | The system must allow an authorized operator to attach a special block or fee to a patron record for any reason. The system must allow a free form text message to be associated with the block. |
| _____ 58. | The system must clear patron records of old blocks according to a specified date. Cleared records may be purged.                                                                                 |
| _____ 59. | The system must calculate and display fines at time of checkin or renewal. Full or partial payment may be accepted at checkin. The system must permit a free text message for each line.         |
| _____ 60. | The daily charge computation must be able to take into account the Library holidays and other closed days.                                                                                       |
| _____ 61. | The system must print receipts for fines paid showing date, time, amount, and items for which money was received with a screen printer.                                                          |
| _____ 62. | The system must permit a free text message for each line when accepting payment for fines or fees.                                                                                               |
| _____ 63. | The system must permit an authorized operator to waive or modify system assigned charges. The system must prompt for an operator ID or                                                           |



password (e.g., initials, employee number, etc.).

- \_\_\_\_\_ 64. The system must allow an authorized operator to access on-line the patron's fines and payments record, itemizing the details of each block.
- \_\_\_\_\_ 79A. It must be possible to restrict a patron's borrowing privileges for excessive "claims returned".

### **Holds**

Holds are used to reserve requested materials for a particular patron.

### **Availability Status & Reference Note**

### **Specification**

#### Placing Holds

- \_\_\_\_\_ 80. The system must allow holds to be placed: by TITLE such that the first available copy will fill the request and by ITEM such that only a designated copy will fill the request.
- \_\_\_\_\_ 81. Reserves may be placed for A) first item returned anywhere in the system for a specific title, B) the first copy returned to a specific location, and C) a specific copy (item) of a title at a specific location.
- \_\_\_\_\_ 82. The system must allow a patron to specify the notification method when placing a hold:
- a. Mail card
  - b. Phone

\_\_\_\_\_ A free text field must be provided to optionally note any additional messages.

- \_\_\_\_\_ 83. The system must allow an operator to optionally specify a last acceptable date for a hold, after which time, the material is no longer needed.

84. The system must allow the library to set a threshold for the number of holds that a patron can make.

85. It must be possible to place reserves on titles on order which do not yet have specific barcode number attached.

#### Filling Holds

86. The system must alert the operator when materials on hold are renewed or checked in, displaying either the name of the patron placing the hold or instructions to notify the patron.

87. The system must verify that the correct patron is checking out material at time of loan.

88. The system must allow easy hold cancellations, making a note on the patron's record.

89. The system must allow an operator to optionally specify a last acceptable date for a hold, after which time the material is no longer needed. The system must automatically clear holds not filled by such dates and automatically readjust the hold queue.

90. The system must allow an authorized operator to view on-line the patron record for whom a particular item is being held.

91. The system must produce notices alerting patrons of materials being held with an indication of when to pick up material, and by what date.

92. The system must allow for the printing of hold slips to be placed in items being held, showing patron name, phone number, pick up point, and date returned.

93. The system must allow an authorized operator to review holds for any given patron.

94. The system must monitor the length of time items sit on the hold shelf. If the time exceeds the number of days defined to hold, the hold must be canceled and an appropriate note made on the patron's record. If other

patrons are in the queue, notification must be signalled for them.

- \_\_\_\_\_ 95. The system must provide for the production of a printed list of canceled holds.

#### Hold Queue

- \_\_\_\_\_ 96. The system must maintain multiple holds in a queue with oldest first, by institution.
- \_\_\_\_\_ 97. The system must allow authorized operators to view and alter the sequence of holds within the queue.

#### **Special Status Routines**

Status refers to the current location or condition of a particular item.

#### **Availability Status & Reference Note**

#### **Specification**

- \_\_\_\_\_ 98. The system must allow an authorized operator to change the status of an item being checked in (e.g., lost, claimed returned, damaged, etc.).
- \_\_\_\_\_ 98A. It must be possible to delete items individually by accessing the title and item records. HQ staff must be able to add, transfer or delete any item. A screen display and report must be generated when the last copy of a title at a location, or the last copy in the system is withdrawn.
- \_\_\_\_\_ 99. The date upon which any item is assigned a special status must be recorded on the item. This date may be used as a criterion for additional processing (e.g. assign all items "Missing Since Feb.1" to status of "Lost").
- \_\_\_\_\_ 100. The system must allow the status of items to be changed by an authorized operator to any valid status (e.g., "Missing" to "Lost") by entry of the barcode by light pen, laser, or keyboard. The status of items with missing barcodes may also be changed.
- \_\_\_\_\_ 101. The system must accept "Search" (or "trace" requests for items not found by a patron. A

list of items whose status is "Search" may be printed on demand.

\_\_\_\_\_ 102. The system must create a replacement billing block on the patron record for items checked out which are assigned a "Lost" status. The item must then be removed from the checkout file.

\_\_\_\_\_ 103. The system must record on the item the date on which a special status was assigned. This date may be used as a criterion for additional processing (e.g., assign all items "Missing Since Feb. 1" to status of "Lost").

\_\_\_\_\_ 104. The system must allow for additional Library-defined statuses without programmer intervention.

## Patron Registration

Patron Registration is the process of creating a patron information database. This database is composed of individual patron records.

### Availability Status & Reference Note

### Specification

#### Creating Patron Records

- |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 105. | Not used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 106. | Not used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 107. | The system must allow operators to register patrons without exiting the checkout function.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 108. | Each of the data elements in the patron file must be variable length.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 109. | The information entered and stored in the patron database must include, but is not limited to, the following fields: <ul style="list-style-type: none"><li>a. Last name</li><li>b. First name and middle initial</li><li>c. Street address</li><li>d. City and state</li><li>e. Zip code (including 9 digit Zip)</li><li>f. Phone number</li><li>g. Statistical categories to include:<ul style="list-style-type: none"><li>i. birth date</li><li>ii. location code</li></ul></li><li>h. Sex</li><li>i. Guardian ID</li><li>j. Patron class code</li><li>k. Registration date (mm/dd/yy)</li><li>l. Expiration date (mm/yy)</li><li>m. Barcode label number</li><li>n. Delinquency, stop, lost/stolen card report, etc.</li><li>o. Issuing library</li><li>p. Date the card was last issued (mm/dd/yy)</li><li>q. Date of first update to record</li><li>r. Fines and charges</li><li>s. overdues</li><li>t. Alternate address</li></ul> |

- \_\_\_\_\_ 110. The Library must control circulation policies by assigning a patron category on the patron's record.
- \_\_\_\_\_ 111. The Library must be able to define as many different patron type categories as they desire.
- \_\_\_\_\_ 112. The following information must be stored it, and linked to the patron's record.
- a. Date of registration
  - b. Number of items overdue and checked out
  - c. Fine and/or other charge amount owing
  - d. Payment
  - e. Date of payment
  - f. Identification of items checked out
  - g. Default item loan period
  - h. Date overdue notice sent
  - i. Identification of items on hold
  - j. Number of times patron claims returned items
  - k. Patron status
  - l. Message relating to the patron
- \_\_\_\_\_ 113. The system must not allow duplicate patron records based on match points determined by the Library.
- \_\_\_\_\_ 114. The system must provide for coded fields to expedite the entry of patron information. Codes entered must be verified against a list of existing codes to insure database integrity.

#### Modifying Patron Records

- \_\_\_\_\_ 115. It must be possible to search the patron file without exiting the checkout function.
- \_\_\_\_\_ 116. Patron information must be held confidential and must only be accessed by those operators who have the appropriate passwords and codes.
- \_\_\_\_\_ 117. The patron file must be accessed by using the patron's surname, barcode, or some other alternate identifier provided by the Library.



118.

The following information may be updated by an authorized person:

- a. Date of registration
- b. Number of items overdue and checked out
- c. Fine and/or other charge amount owing
- d. Payment
- e. Date of payment
- f. Identification of items checked out
- g. Default item loan period
- h. Date override notice sent
- i. Identification of items on hold
- j. Number of times patron has "claims returned" items
- k. Patron status
- l. Message relating to the patron

119.

The system must allow the operator to reassign a new bar code to the patron when a patron card is lost, changing the status of the old barcode to "lost" and the status of the new barcode to "active." Patron information and item charged to the patron from the old barcode must be linked to the new barcode.

#### Deleting Patron Records

120.

The system must allow the Library to purge inactive patrons automatically according to library set parameters or library expiration date. Patrons with items out or fines must not be deleted.

121.

The system must not delete patron records that have patron blocks (e.g., overdue items, fines, etc.).

#### **Circulation Statistics & Reports**

Reports and statistics refers to any various online notices, statistics or reports generated by specific commands given to the system or the report generator. If a report is not available as a menu choice, the vendor shall create such a report, using the report generator software, for the Library's use.

**Availability Status  
& Reference Note**

**Specification**

- \_\_\_\_\_ 122. The vendor must describe and provide sample circulation statistics and reports that are available.
- \_\_\_\_\_ 122A. Statistics must be kept of collection characteristics in at least 250 categories defined by the Library, indicating the number items added or owned in each category and the number of items which have circulated in the statistical period.
- \_\_\_\_\_ 123. The system must provide for a report generator for custom programs to be written and generated by the Library.
- \_\_\_\_\_ 124. The system must allow patron statistical information to be obtained from a specific field or a combination of fields on the patron record.
- \_\_\_\_\_ 125. The system must provide a printed statistical report on the number of patrons currently registered, by patron status, type, location (issuing agency/zip code), county, census tract, age, sex, etc.
- \_\_\_\_\_ 126. The system must maintain online records of the following transactions by patron:
- a. total amount of unpaid fines
  - b. total of unpaid charges for lost or damaged items
  - c. current transactions or those items which are currently checked out to the patron
  - d. date of last library transaction
  - e. total number of library visits
- \_\_\_\_\_ 127. The system must collect, correlate, and maintain accurate statistics for circulation reports. If reports are generated for each of Missouri's libraries separately, sums of each category must equal figures represented in a comparable report for the Missouri Libraries as a whole.

**Inventory**

The system should allow easy and fast inventory of the Library's holdings. The system should remember the last date an item was inventoried.

**Availability Status  
& Reference Note**

**Specification**

- \_\_\_\_\_ 1. The system must allow Library staff to take inventory of labelled library materials at multiple locations and for multiple parts of the Library at the same time.
- \_\_\_\_\_ 2. The system must read labels for items inventoried using:  
\_\_\_\_\_ Portable terminals, and/or  
\_\_\_\_\_ Portable devices
- \_\_\_\_\_ 3. The system must record on appropriate item record the date each item was inventoried.
- \_\_\_\_\_ 4. The system must provide printed reports of items mis-shelved for each batch of barcodes processed.
- \_\_\_\_\_ 5. The system, upon completion of any collection, must allow the status for items to be changed to "missing from inventory" and allows printed report of these items.
- \_\_\_\_\_ 6. The system must make allowances for items on loan, in processing, and other status' that do not qualify as "missing" items.
- \_\_\_\_\_ 7. The system must report and allow simple resolution of items found on the shelf which had incorrect status (i.e. checked out, missing, etc.)

**(7) FUNCTIONAL SPECIFICATIONS FOR LIBRARY BACK-UP UNITS**

**General Information**

Back-up for the State Library circulation module is to be provided in the event that the system computer is down.

- \_\_\_\_\_ 1. The system must allow entry of the borrowers and item's identification, using a: light pen, laser scanner, or a keyboard.
- \_\_\_\_\_ 2. The system must provide a check digit to assure that the numbers have been accurately entered.

- \_\_\_\_\_ 3. The system must provide check-out and checkin functions.
- \_\_\_\_\_ 4. The system must allow patron blocks, with a loadable patron block file, providing warning messages for blocks, automatic logging of exception conditions, and override capabilities.
- \_\_\_\_\_ 5. The system must offer automatic logging of exceptions and special conditions.
- \_\_\_\_\_ 6. At check-in, the system must provide calculation of fines, receipts, and partial payments, etc.
- \_\_\_\_\_ 7. At check-out, the system must provide for adjustable loan periods, automatic checkins, and automatic calculation of due dates.
- \_\_\_\_\_ 8. Circulation statistics must be kept by:
  1. Type
  2. Date
  3. Agency
  4. Location
  5. Title
  6. Patron or Item barcode
  7. Activity by terminal
- \_\_\_\_\_ 9. Transfer of data to and from the portable computer must be provided through any terminal on the system, to be accomplished quickly and with a warning message display to prevent accidental erasure of data that is not yet transferred to tile main computer.
- \_\_\_\_\_ 10. The back-up system must support at a minimum two (2) circulation desk terminals, and must allow easy "switch over" from on-line to back-up modes, and vice versa.

The proposes must include brochures and technical literature for the back-up units in Volume II. Costs must also be included in the proposal.

## **(8) FUNCTIONAL SPECIFICATIONS FOR JOURNAL CITATION and ACCESS TO REFERENCE DATABASES**

### **General Information**

Journal Citation Software must allow libraries to maintain and Search Periodical literature citations on subscription data files either tape-loaded or on CD-ROM. An additional link is access to dial in reference databases.

#### Pricing

1. Fees should be based on loader programs, not database providers' license fees.

#### Search strategies

2. The Library must be able to determine menus and displays for journal citations.
3. Each index of citations must have its own main file and set of indexes.
4. The journal citation files must have authority control separate from the main bibliographic file.
5. The Library must be able to choose from a set of default values for indexing and searching options.
6. The system must use the same search syntax as the PAC.

#### Holdings

7. The system must link with the serials module to flag Library holdings.
8. The system must provide shelf status of flagged holdings.
9. The system must support citations, abstracts and full text if provided by subscription data file.

#### Vendors

10. The system shall load and index records or access and search remotely loaded records from:

1. Information Access Company
2. H. W. Wilson
3. Ebsco
4. UMI
5. Other vendors (list):

11. The system must access reference databases, such as Dialog, BRS, and Medline. The vendor shall indicate how this can be done - host-to-host, dedicated terminals, etc.; and associated costs.

## (9) FUNCTIONAL SPECIFICATIONS FOR ELECTRONIC MAIL

### General Requirements

Electronic Mail (E-Mail) and Bulletin Board are two important tools which allow Missouri libraries to communicate among themselves and the State Library and for the State Library to communicate with its patrons. The system may also serve as the State Library's E-mail system for staff.

1. The system must allow staff to send an electronic "letter" to any person on the system (including oneself), to all users simultaneously, or to a self defined mailing list.
2. The system must allow system Administrators to use E-Mail to communicate with the vendor about problems and concerns.
3. A member library may use E-Mail to communicate its needs to the System Administrator, or any other person on the system.
4. A Bulletin Board must be provided to allow posting on the system.
5. The Bulletin Board may be used for two separate groups - Member Libraries and Library patrons.
6. A message if a user has unread messages, will be displayed when she logs onto the system.
7. A separate bulletin board in the Public Access module can be displayed if the patron chooses the bulletin board option from the menu.
8. Full text editing must be available for both electronic mail and bulletin board modules.
9. A user must be able to upload and download ASCII files in electronic mail.



10.

For the bulletin board functions, the system must utilize the US MARC community Information Format.

#### (10) FUNCTIONAL SPECIFICATIONS FOR INTERFACES TO OTHER AUTOMATED LIBRARY SYSTEMS AND THE INTERNET, AND MULTIPLE LIBRARY CAPABILITIES

##### General Information

It is desired that other automated library systems be able to access the Library computer and the Library be able to access other automated library system's computers.

1. The system must provide the ability to seamlessly connect with the Internet or other telecommunication networks.
2. The system must provide access to other automated library systems computers and vice versa to:
  - a. Search a catalog to determine holdings
  - b. send a message requesting the materials
  - c. Exchange electronic mail
3. The system must offer FAX capabilities.
4. System must support multi-protocol networking communications including DECNET, TCP/IP, OSI and provide transparent protocol conversion.
5. System must offer connection to high-speed dedicated library oriented networks for access to data files of both indexes and full-text.
6. System must support full text file transfer.

#### (10A) FUNCTIONAL SPECIFICATIONS FOR COMMUNITY INFORMATION, REFERENCE & REFERRAL MODULE

##### General Requirements

Information and Referral Files refer to files that hold community information. This information can be updated by both staff and patrons.

- \_\_\_\_\_ 1. The system must allow the creation and maintenance of an Information and Referral File.
- \_\_\_\_\_ 2. The system must allow updates by authorized staff members.
- \_\_\_\_\_ 3. The system must optionally allow updates by outside organizations with an authorized access number.
- \_\_\_\_\_ 4. The system must use authority-controlled terms for organization subject descriptors, separate from the main bibliographic authority files.
- \_\_\_\_\_ 5. The system must search and display I and R files by organization name, alternate names, or subject descriptors.
- \_\_\_\_\_ 6. The system must produce a listing of records that have not been updated since a specified date, formatted as either a summary report or as a letter that can be folded for a window envelope.
- \_\_\_\_\_ 7. The system must automatically link the I and R file to the events calendar.
- \_\_\_\_\_ 8. The system must maintain a calendar of events which can be accessed from the Public Access module.
- \_\_\_\_\_ 9. Events can be reviewed by date or by keyword search.
- \_\_\_\_\_ 10. Events can be entered from designated fields on an I and R file record or independent of any organization.
- \_\_\_\_\_ 11. The system must allow authorized staff to enter information for frequently asked questions.
- \_\_\_\_\_ 12. The system must permit the file to be searched by keyword access across question and answer fields.
- \_\_\_\_\_ 13. The system must allow downloading into a WordPerfect, Pagemaker, or ASCII file to

produce a directory of Community Services,  
including full indexing.

## STANDARDS

Vendor must have a proven commitment to both library and automation standards. This is indicated by past, present and proposed future performance.

- \_\_\_\_\_ 1. Vendor has supported the full MARC bibliographic format including fixed fields from the beginning of vendor product implementation.
- \_\_\_\_\_ 2. Storage of the MARC record must include header and leader data, all control fields and all tags, indicators and subfield codes.
- \_\_\_\_\_ 3. The order of the fields or file structure must not be changed or manipulated by the vendor to accommodate the storage of the records, e.g., a record with the 090 field preceding an 090 field will not be changed during input or output, unless specified by the library.
- \_\_\_\_\_ 4. All fields of the MARC Bibliographic record must display the field tags for both the variable and the fixed fields.
- \_\_\_\_\_ 5. Authority records must be in full MARC format.
- \_\_\_\_\_ 6. Values in all of the fields of the MARC record, including the fixed fields, and MARC record format must be changed without vendor intervention.
- \_\_\_\_\_ 7. System must be able to accept and download MARC telecommunications format records, without changing the record format or stripping either fixed or variable fields of the MARC record.
- \_\_\_\_\_ 8. System must be able to display a full MARC record from any module.
- \_\_\_\_\_ 9. System must not utilize a separate record or a duplicate MARC-like record for any modules.

### National Information Standards Organization (NISO)

- \_\_\_\_\_ 10. System must assure compliance with NISO Z39.2-199X Information Interchange format.

11. System must adhere to NISO Z39.21-1988 Book Numbering (ISBN).
12. System must assure compliance with NISO Z39.43-199X Standard Address Number Identification Code for the Book Industry.
13. System must assure compliance with NISO Z39.47-199X Extended Latin Alphabet Coded Character Set for Bibliographic Use.
14. System must assure and verify compliance with NISO Z39.50-199X Information Retrieval Service Definition.
15. Vendor must be an active member of the Z39.50 implementators' Group and Z39.50 interoperability testbed.
16. System must assure compliance with NISO Z39.58-199X Common Command Language for Online Interactive Information Retrieval.
17. System must assure compliance with NISO Z39.63-199X Interlibrary Loan Data Elements.